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ABSTRACT

This annual report provides an overview of Arapahoe Community College's (Colorado) efforts to improve undergraduate education and the success of those efforts as of 1993-94. After outlining changes made in the transfer, vocational education, and developmental studies programs, the report provides information on specific recommendations implemented since 1992-93 related to vocational education; retention and completion; alumni satisfaction; after graduation performance; graduating students satisfaction; community education; and business and industry services. Appendixes comprise the bulk of the report, providing data and survey results related to the following: (1) a 1993-94 calculus readiness test; (2) college algebra instructional strategies; (3) a student self-evaluation communication survey and instructor ratings of student improvement in speech; (4) guidelines for English instructors and results from surveys of students confidence in their writing ability; (5) transfer accountability projects; (6) two pilot studies in developmental English; (7) a developmental reading survey; (8) a developmental mathematics tracking analysis; (9) minority student enrollment comparisons, 1992-94; (10) results of licensure exams, 1993-94; (11) a vocational education student satisfaction survey; (12) a graduate employer survey; (13) term-to-term retention/persistence rates for full-time, part-time, and all students; (14) transfer acceptance, grade point averages, and completion/persistence rates for selected years from 1988-89 to 1993-94; (15) graduating student satisfaction levels; (16) community education satisfaction levels; and (17) business and industry student satisfaction reports. (KP)

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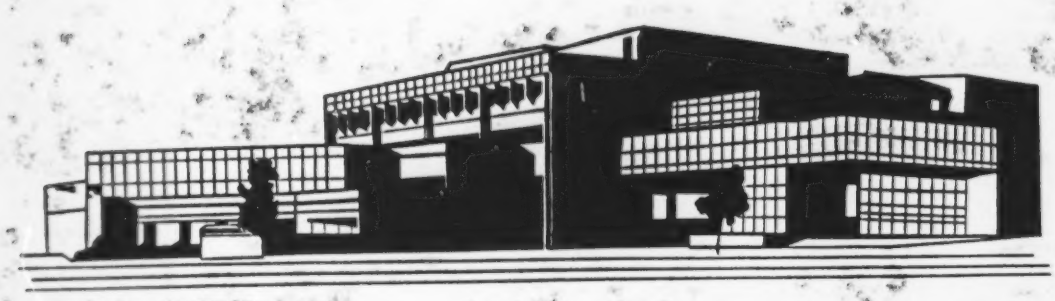
ED 374 881

Accountability Report

To Assess The
Effectiveness of
Undergraduate Education
At
Arapahoe Community College



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Submitted by
James E. Weber, Ph.D.
President

October 1, 1993

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Arapahoe Community College

2500 West College Drive
Littleton, CO 80160-9002

Arapahoe Community College

October 1, 1994

Colorado Commission on Higher Education
1300 Broadway, Second Floor
Denver, CO 80203

Dear Ladies and Gentlemen of the Commission:

As a state-supported institution of higher education, Arapahoe Community College is pleased to be able to demonstrate its good stewardship to the people of Colorado through the Accountability process.

The College has developed a planning process that encourages broad-based participation on the part of the faculty and staff in providing appropriate measures of assessment and effectiveness, and in using these measures to improve the quality of our educational services to students. ACC's *Accountability Plan* has been used as a model by the Commission on Institutions of Higher Education of the North Central Association of Colleges and Schools in meeting our regional accrediting body's mandate for institutional assessment.

Using this planning process, the College is in position to serve the emerging needs of residents of our service area in Arapahoe, Douglas, and Jefferson counties.

Enclosed is the 1994 *Report to Assess the Effectiveness of Undergraduate Education at Arapahoe Community College*, in compliance with the requirements established by the Commission.

Sincerely,

James F. Weber
President

Enclosure

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MAIN CAMPUS
2500 W. College Drive
P.O. Box 9002
Littleton, CO 80160-9002
(303) 794-1550
FAX (303) 797-5935

WEST ALAMO CENTER
2500 W. College Drive
P.O. Box 9002
Littleton, CO 80160-9002
(303) 797-5958
FAX (303) 797-5935

NEVADA STREET CENTER
2500 W. College Drive
P.O. Box 9002
Littleton, CO 80160-9002
(303) 797-5958
FAX (303) 797-5935

TRIAD
5660 Greenwood Plaza Blvd.
Suite L120
Englewood, CO 80111
(303) 721-1591
FAX (303) 721-1891

PARKER CENTER
Parker Plaza
10445 So. Parker Road
Parker, CO 80134
(303) 841-3431
FAX (303) 841-6718

CASTLE ROCK CENTER
The Center on Plum Creek
814 D So. Brisco Lane
Castle Rock, CO 80104
(303) 688-5513
FAX (303) 688-2646

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AFFIRMATIVE ACTION / EQUAL OPPORTUNITY EMPLOYER

ACCOUNTABILITY REPORT TO ASSESS THE EFFECTIVENESS OF UNDERGRADUATE EDUCATION AT ARAPAHOE COMMUNITY COLLEGE

OCTOBER 1, 1994

Acknowledgments

This report indirectly reflects the day-to-day commitment of faculty and staff to improving the quality of College services. The following committees and individuals contributed directly to the report.

Ex-officio members of each committee
Vice President for Instruction
Wayne Henry, (Interim, since July 1, 1994)
Don Yeager
Assistant Coordinator of Accountability and Report Editor
Peggy Cole
Institutional Research
Frank Markley, Director

Transfer Accountability Committee
Business and Professional Services Division
Gene Amoroso, Dean
Ginny Brannon
Health, Math and Science Division
Carla Getchel, Dean
Jim McCullough, Chair of the Committee
Humanities and Social Sciences Division
Herm Jantzen, Dean
Jeff Broome
Sandy Panetta
Jim Parker
Polly Rogers
Counseling
Jim Johnston

Developmental Studies Accountability Committee
Humanities and Social Sciences Division
Lee Earley, Chair of the Committee
Tami Ficca
Roberta Grothe
Nancy Konen
Pauletta Krum
Linda Messer
Glenda Norblom
Barbara Reyman
Ted Rohde
Spring International School
Janet Ludwig
Counseling
Alex Labak

Vocational Education Accountability Committee
Business and Professional Services Division
Gene Amoroso, Dean
Dominic Latorraca
Design and Technology Division
Ron Rose, Dean
Bob Melland
Jon Shubert, Chair of the Committee
Health, Math and Science Division
Carla Getchel, Dean
Annette Bigalk
Paula Provence
Area Vocational School
Barbara Pevoto, Director

Community Services
Wayne Henry, Dean
Kim Larson-Cooney, Community Education
Beth Wieck, Business and Industry Services

Student Services
Karen Lane, Vice President

Other
Mike Berry, Institutional Research
Don Ina, Director of Computer Services

For additional details relating to the information in this report contact the Vice President for Instruction.

1. Changes in Teaching, Curricula and Learning

The Transfer Program

Math

Based on recommendations in the 1992-93 Accountability Report, the Math faculty completed a detailed item-analysis of the results of the Calculus Readiness Exam given in Spring 1993, developed strategies for improving students' problem-solving skills, and gave the MAA Calculus Readiness Exam to students completing College Algebra. The item-analysis confirmed preliminary conclusions, namely that ACC students have improved in their ability to graph and interpret graphs, but still have difficulty with analytic problem solving. The faculty will experiment with strategies they have developed to deal with this difficulty. The results on the 1993-94 administrations of the exam were better than in 1992-93 and are consistent with results from earlier years. Results support the conclusion that students who earn at least a C in MAT 121 are prepared to apply qualitative and quantitative reasoning skills and to objectively analyze and synthesize data at the level required for transfer to a four-year college or university. (See Appendix A.)

Recommendations. The Math Department recommended that the Math faculty

a. Formally review Mat 121, comparing it with courses offered at other Colorado community colleges and four-year educational institutions.
b. Give special attention to strategies used to develop analytic thinking skills.

Speech

Based on recommendations in the 1992-93 Accountability Report, a Task Force of the Speech Department met in the summer of 1993 and developed an assessment survey which was given to the SPE 115 classes at the end of Fall 1993. Each student rated how much progress he/she made during the semester; every student's instructor evaluated the student's progress on the same factors (see Appendix B). A majority of students and instructors felt students had improved in all areas. The highest ratings were for the ability to communicate orally in front of an audience, which is the major goal of the course. The lowest rating (student survey only) was for library research skills. While this skill was required for some speeches, it was not a major instructional objective of the course. It is not clear from the study the extent to which students already had mastered given skills when they enrolled in the class, nor competency levels when they exited (responses were not correlated with student grades). The Task Force report will be distributed to Speech faculty.

Recommendations. The Task Force recommended that

a. Speech instructors look more closely at library research skills and emphasize them more strongly if students are weak in this area.
b. Future surveys include not only perceptions of improvement but also questions to assess exit competencies.

English

Based on the recommendations of the 1992-93 Accountability Report, the English Department (a) completed a review of ENG 121 and 122, comparing the curricula to those at other community colleges and four-year institutions in Colorado, (b) revised standard syllabi for ENG 121 and 122, and (c) improved procedures to support and guide adjunct faculty (see Appendix C). The process included distribution of syllabi and guidelines to other departments for comment. The Department also began collection of data which are expected to shed more light on the effectiveness of the curriculum and instruction.

First, the Department developed and administered a survey at the end of Spring 1994 to assess ENG 122 students' confidence in the writing skills stated in the college Transfer Accountability Plan (see Appendix C). The second data collection relates to efforts to refine analyses of current and future studies which track not only ENG 121 and 122 students but also Developmental Studies students. In the past, studies have grouped students into those receiving grades of C or better and those receiving other grades (D, F, W), with the second group being judged as non-successful. However, anecdotal information suggests that many of the "non-successful" students were actually earning passing grades when they withdrew or stopped attending class. Students' performance

levels are critical in interpreting the effectiveness of composition courses. Thus, the Department asked ENG 121 and 122 instructors at the end of Spring 1994 to indicate the grades "non-successful" students earned on actual work completed, in addition to their official course grades. (See Appendix E for a discussion of a pilot study involving ENG 095.) The third set of data collection efforts were in preparation for the formal assessment of ENG 121-122 in 1994-95. The Department thus began development of two surveys to be administered Fall 1994: (a) a survey of the types of writing required in transfer classes, and (b) a survey to assess the effectiveness of ENG 122. The latter will include student identification so that responses can be tied to student performance in ENG 122 and to performance in other courses that require significant amounts of writing. (See Appendix C.)

Recommendations. The English Department recommended that

a. ENG 121 and 122 faculty continue to indicate grades "non-successful" students actually earned on work completed, in addition to their official course grades.
b. The survey of writing required in transfer classes be administered in the Fall 1994.
c. The survey to assess the effectiveness of ENG 122 be administered to students Fall 1994.

Biology

Faculty in the Biology Department introduced a new component of scientific research and methodology into BIO 111-112, with students following through on research in the two-semester sequenced course. Students are required to write research and results in publication-ready format. Faculty also introduced new gel Electrophoresis equipment that allows students to perform DNA analysis.

Responses to Other Recommendations by the Transfer Accountability Committee

Promoting Communication Skills Across the Curriculum. Spring 1994, the College established a committee to promote communications across the curriculum and to support faculty in this effort. Discussion in the committee has focused on (a) a possible survey of faculty on topics such as teaching strategies dealing with communication, types of examinations, essays, research papers, and speaking experiences, (b) ways to encourage faculty to share teaching strategies, and (c) how the Learning Strategies Center could assist students.

Scope of Assessment. The Transfer Accountability Committee decided to broaden its assessment of courses beyond MAT 121, SPE 115, and ENG 121-122 in order to maintain a broader perspective on the success of ACC's transfer program. Projects may be broader in scope and will be expected from English/Speech, Math/Science, Humanities, and Social and Behavioral Sciences, as well as any other area with courses intended for transfer. The committee will ensure that over time the projects are distributed over a range of areas. (See Appendix D for the committee's formal policy.) ENG 121-122 will be assessed in 1994-95.

Critical Thinking. A workshop for facilitating critical thinking in the curriculum was included in ACC "Quality Days" staff development, January 1994. Several faculty participated.

General Education. The Transfer Accountability Committee reviewed the definition of "General Education/Transfer Education" but decided to make no changes.

VOCATIONAL EDUCATION

Several changes were the result of the general increase in emphasis on accountability. The **Nursing Department** enhanced instruction by adding computer-assisted instruction and multimedia software, and by augmenting the curriculum with critical-thinking methodology. The **Emergency Medical Technician** program added an elective, "EKG Interpretation," which has been well received. The **Medical Office Assisting** program added software which allows students to simulate realistic work tasks. The **Occupational Therapy Assistant** program developed "Multi-cultural Issues in Healthcare," an elective available to all vocational students.

The **Business Division** provided partial release time to several faculty to establish linkages with the business community. The Marketing program conducted a Needs Assessment to increase awareness of the program offerings, stimulate enrollment, and improve communication with industry; a database of 194 companies was developed to provide specific contacts. As a result of

these efforts, the Division added more fast-track course offerings for retraining and updating, and referred several companies to the Business and Industry Services Program for customized training.

Responding to the American Bar Association request for more continuing education for legal assistants and to the need for increased skills in computer applications in the legal field, in Spring 1994 the **Legal Assistant Program** offered two half-day seminars to graduates and current students. Feedback from both seminars was positive.

The **Automotive Technology** program is introducing the Chrysler technician training program and after-market training for Midas/Snap-On Tools (Fall 1994). In addition to enhancing instruction, these business partnerships will assist the Automotive Technology program in continually upgrading equipment for instruction. The **Electronics** program developed multimedia programs to upgrade curricula to meet industry expectations. Based on student surveys and recommendations from faculty and Advisory Committee members, faculty are restructuring and aligning Electronics courses with those offered in the Business Division. In response to industry requests, faculty in **Mechanical Drafting** and **Architecture** are shifting program emphases to computer-assisted design, including the development of fast-track modules for Architecture. Dialogue between faculty at ACC and Metropolitan State College has resulted in improved transferability of courses. Based on student need and industry standards, the **Graphic Design** and **Interior Design** programs have upgraded their computer labs; these upgrades will assist staff with the integration of students' communication skills through software applications.

To enhance accountability to discipline-specific industries in the community, competency-based curricula are being phased in over a five-year period in vocational programs; this was the first year of the phase. (See an example of a converted syllabus in Appendix G.)

DEVELOPMENTAL STUDIES

The College continues to focus on the question of whether "students completing developmental studies...can read, write, compute, and apply study skills at a level necessary to function in college-level classes," particularly since student success in classes can be a function of several factors other than basic skills. Tracking was used to assess the effectiveness of courses in preparing students for subsequent college-level courses; however, lack of data on students' waivers of recommended English and Math courses limited the analysis.

Reading. Analysis of pre and post self-inventories of REA 090 students' reading strategies and skills found statistically significant increases in students' perceptions of their use of reading skills on 45 of 55 items. Not surprisingly, the remaining 10 items suggest that many students need to continue to develop skills in critical reading (including using the dictionary when appropriate), reading/studying for understanding, relating information to prior learning, and organizing knowledge; these skills are not taught or are only introduced in REA 090. Furthermore, this pattern of weaknesses is typical of low-achievers, who view learning as a fairly passive process of rote memorization rather than active construction of meaning. However, the change in students' self-reported practices is promising, given published research showing that changing study strategies typically requires months or years of extensive practice. An end-of-term survey indicated that students were very satisfied with REA 095. (See Appendix E for more detail.)

At mid-semester Spring 1994, a 10-question survey (see Appendix E) was mailed to the 63 students who completed REA 095 Fall 1993 and were enrolled at the College Spring 1994 (96.9% of the 095 students). Unfortunately, too few students (5; 7.9%) returned the survey to allow interpretation of the results.

Although students who complete Reading courses report being very satisfied with them, only 29.9% of those advised to take such courses did in 1992-93, the last year for which complete figures are available.

English. In Spring 1994, ENG 095 (now 100) course grades statistically validated an exit-writing instrument. However, students' scores on the exit-writing were not a good predictor of success in ENG 121. Nor were students' grades in ENG 095 a good predictor of achievement in ENG 121 (see Appendix E). The failure of either the exit-writing or grades to predict success in ENG 121 may involve several factors, such as inadequate sample size, the greater demands of the types of writing required by the end of ENG 121, motivation, etc. A pilot analysis was conducted

to explore methods to increase the validity of determining whether ENG 095 influences student readiness for ENG 121 (see English, pp. 1-2, and Appendix E).

Math. Students who successfully completed MAT 060 (Pre-Algebra) subsequently performed at about the same level in MAT 114 (Beginning Algebra) as students who tested into MAT 114 and students who were exempted by their ACT/SAT scores. Although the developmental studies students performed lower than the other two groups, they experienced a significantly higher completion rate than students who tested into MAT 114 or who were exempted. (See Appendix E.)

GED. Because GED students differ from most ACC students, it is difficult to interpret GED results in terms of completion, retention, or subsequent achievement in college-level courses (see Appendix E). A continuing problem with GED is failure to complete the program. Although the GED graduation ceremony motivates many students to complete the program, efforts to encourage students to set realistic goals did not increase the completion rate.

Study Skills. Standardized self-inventories administered at the beginning and end of Fall 1994 to students in STS 040 and 050 indicated statistically significant increases in students' perceptions of their study skills in all areas (see Appendix E). However, too few students responded to a pilot questionnaire to track their perceptions about their skills in subsequent classes to make the latter study meaningful.

ESL. Based on the recommendation in the 1992-93 Accountability report, emphasis was placed on summarizing skills in the ESL 092 classes. Students studied summarizing techniques and wrote four summaries of articles or essays, one in class and three at home.

Recommendations.

a. Review the Accountability questions and assessment criteria for each area of Developmental Studies, and revise them if warranted.
b. Investigate the low rate of students' following placement advice to take Developmental courses (including sequences to lower-level courses). For example, gather data on sex, age, ethnicity, part/full-time status, high school language arts courses and grades, reasons for taking/not taking recommended Developmental courses.
c. Explore the use of additional criteria to assess the effectiveness of Developmental classes (e.g., tracking, college persistence rate, post test scores at 12.0 grade level or above). Such studies should compare both those who follow and those who waive advice to take Developmental courses.
d. Recommend the College revise procedures for ensuring ENG 121/131 waivers are obtained when warranted.
e. Review the Developmental Studies curriculum to determine whether it is meeting students' needs. (For example, do 3- and 4-credit courses meet motivational and scheduling needs? Is the content appropriate?)
f. Refine the 10-question follow-up Reading survey (content and/or administration) to increase the response rate.
g. Track the GPA of students who complete ESL 092 to help gauge the effectiveness of the course.
h. Pursue the method piloted for ENG 095/121, examining the quality of work submitted in ENG 121 (in addition to grades earned for the course).

OTHER

Placement testing. To improve the efficiency and effectiveness of its academic advising/placement program, upon the recommendation of the faculty, the College is replacing the ASSET paper and pencil power tests with the ACCUPLACER computerized non-power testing program. It will be piloted in 1994-95 to develop placement cut-off scores. Faculty completed the second year in the multi-year development of a computerized advising system which is intended to improve the efficiency and effectiveness of instruction by providing faculty ready access to databases which support instructional advising.

New faculty positions. The College staffed (effective fall 1994) nine new faculty positions to address several perceived problems including a very low full-time to part-time faculty ratio

which has overburdened the faculty with supervisory duties, instructional development and assessment, committee assignments, etc. Of particular importance is the hiring of a chair of the Developmental Studies program to provide stronger leadership in assessment of that program.

2. New Institutional Strategies for Reporting Assessment

Results of assessment were made available as part of the CARL information network.

3. Minority Student Data

Student ethnicity enrollments at ACC continue to closely mirror the ethnic make-up of ACC's service area (see Appendix F). There are no statistically significant differences in term-to-term retention/persistence rates based on declared ethnicity (see Appendix H).

4. Data

a. General Education (See part 1 of the report.)

b. Discipline-specific Education

Vocational Education

Based on numbered recommendations in the 1992-93 Accountability Report, Vocational Education:

1) Continued to utilize licensure and professional certification exams as one measure of student achievement. With one exception, programs using such exams significantly exceeded ACC's criterion of 75% (see Appendix G).

2, 6, 7) Continued to try to increase the response rate to its Student Satisfaction Survey (through changes in administration and inclusion of an incentive). The three-page surveys were included in the packets distributed by the Admissions Office to students applying for graduation, and a second notice was sent to those who did not respond. (Students received a gift for returning the two-page Student Activities Graduating Student Survey). But the 13%-response rate was even lower than last year's. Although additional data were compiled during telephone calls to obtain permission to contact students' employers, the total response rate was still too low to draw valid conclusions (see Appendix G for results of these two surveys).

The committee inferred that students are being over-surveyed and respond better when they have an incentive for each survey. In conjunction with the Student Activities Office, the committee shortened the two surveys from five pages to two, effective August 1994 (see Appendix G). Students will receive an incentive to complete the survey.

3) Conducted additional research to ascertain whether lab schedules need to be adjusted to accommodate students' schedules better. Based on data collected in a study of "open" computer labs (see Appendix G), the Business Division has substituted classroom-labs for periods of low utilization and will monitor open-lab utilization during the Fall semester. At the request of students in the Physical Therapist Assistant and Occupational Therapy programs, a tutoring lab was added to the kinesiology course.

4) Supported the implementation of the Faculty Advising program, with representation on the committee developing the Computer Advising Network. Plans to install computer terminals in all faculty offices not currently equipped with them will allow faculty ready access to student records and program information, thus increasing the efficiency and effectiveness of advising.

5) Supported the establishment of a committee to promote communications across the curriculum (see p. 2). Vocational faculty comprise 50% of the Task Force.

8) Discontinued the exit interview process. Institutional Research incorporated this process into the procedure for conducting the Employer Satisfaction Survey (see below).

The committee conducted an Employer Satisfaction Survey. However, inability to locate a significant number of 1992-93 graduates and inability to contact many employers contributed to a response rate from which it was too small to draw valid conclusions (see Appendix G).

In Spring 1994, the Legal Assistant Department surveyed its 1992-93 graduates. Of the 39 (out of 42; 93%) that it was able to contact, 30 (77%) were employed in the legal field.

Recommendations. The Vocational Education Accountability Committee recommended that

1) The College increase its commitment to the Accountability process by maintaining a database with the current address and phone number of each graduate for at least ten months after graduation. For example, modify the graduation application form to ask for students' permission to update the information in their student files, and establish a follow-up procedure ten months after graduation.
2) A vocational program which is scheduled for its program review in 1994-95 pilot the use of a focus-group as an alternative means of gathering employer satisfaction data (the Health Information Technology program has volunteered).
3) Two-semester Police Academy programs provide review courses in the second semester in order to increase the pass rate on the P.O.S.T. Law Enforcement Exam.
4) Faculty continue to implement the five-year plan to develop competency-based curricula/syllabi with industry input.
5) The committee support the development and implementation of a long-term plan to establish and implement minimum standards for general-purpose classrooms.
6) The committee review its process, resources, and committee composition in order to increase its efficiency and effectiveness.

c. Retention and Completion

ACC exceeded its goals for retention, completion, and transfer (see Appendix H).

Recommendation. It is recommended that the College

1) Request the Colorado Community College and Occupational Education System staff to provide transfer information on ACC non-graduates who transfer to Colorado public four-year institutions.
2) Survey non-returning students to determine whether it is meeting those students' needs.
3) Differentiate retention/persistence rates on the main campus and extended campus sites.

d. Alumni Satisfaction

Transfer Education

Because the 1992-93 alumni satisfaction survey indicated that graduates were generally satisfied with their education at ACC, no survey was scheduled for 1993-94; the next survey is scheduled for 1994-95. (See part 1 for related discussion and recommendations.)

Vocational Education (See part 4b for survey of graduating students.)

e. After-Graduation Performance (See part 4b for Employer Satisfaction Survey.)

f. Other

Graduating Students Satisfaction

Students who applied to graduate were surveyed to determine their satisfaction with their education and the services provided at ACC. (See Appendix I for a description of the survey and part 4b above for discussion of a revision of the survey.) Mean ratings of all items related to **Instruction/Education** exceeded the criterion level of 3.5. In response to **Student Services** recommendations from the 1992-93 report, the Student Government

1) Launched a major campaign to inform students of its role and responsibilities on campus, using input from a student survey to broaden the scope of Student Activities and to guide the Student Government in its daily interactions with faculty, staff, and the student body.

2) Abolished the Student Health Center (and its $5 student fee) after polling students.

The 1993-94 survey of graduating students indicated that all areas of student services except Student Government fell within the criterion range for acceptable performance (see Appendix I). The rating for Student Government did increase slightly compared to 1992-93.

Recommendations. Student Services recommends that

1) The Student Government continue its efforts to recruit student senators, representing all segments of the ACC student body at the main campus as well as off-campus sites.
2) The Student Government solicit faculty support to reinforce the importance of Student Government and its role within the ACC community.
3) Student senators take a more active role on campus-wide committees which involve faculty, administrative staff and classified staff.

Community Education (formerly Adult Education)

In response to recommendations in the 1992-93 Accountability Report, the program

1) Continued to offer a wide variety of courses, including 70 new courses, to meet the needs and interests of its students as well as to encourage life-long learning of people in the service area.
2) Studied and made appropriate changes to the organizational structure, staffing patterns, and communication systems of the program to improve effectiveness and efficiency.
3) Expanded the Douglas County Community Education Program by offering additional courses and offering courses at the new Parker and Douglas County Centers and the Franktown Fire Station. (See Appendix J for additional comments.)

A survey of 640 students indicated a generally high degree of student satisfaction with the Adult Education program. Overall, 80.2% were "Very Satisfied" or "Satisfied" in meeting their personal objectives for enrolling in the course (see Appendix J). However, this reflects a significant decline from the previous year (93.4%).

Recommendations. The Community Education Program recommends the following:

1) Revise the evaluation questions and systematize the procedure so that feedback is more useful in improving the program (the goal is to identify and make necessary adjustments in courses and/or instructors in order to increase student satisfaction rates to at least 90%).
2) Analyze market demand to determine offerings (review 1993-94 enrollment data, and conduct market research).
3) Provide job aids/training for instructors:
   - Mail printed job aids on class management to instructors each term.
   - Compile and mail a list of outstanding resources on instructional strategies and tactics in the ACC library.
   - If resources are available, provide two training sessions for instructors on meeting the needs of adult learners, class logistics, and networking opportunities.

Business and Industry Services

Business and Industry Services served a large number of employees (568) from a wide range of companies. Although continuing problems with content and administration of student and employer evaluations posed problems in interpreting the effectiveness of the program, students and employers were generally satisfied with the training provided. (See Appendix K.)

Recommendations. The Office of Business and Industry recommends that the College

1) Continue to explore ways to increase the response rate of evaluations.
2) Continue to explore ways that the needs/wants of both the "paying" corporate client and the individual employees can be met simultaneously. Examine ways to do this before classes begin.
3) Create a new evaluation form that will provide more applicable feedback to BIS and instructors, using input from corporate clients, their employees and instructors.
4) Create an evaluation form for the consultant/instructor.
5) Discontinue the use of the written follow-up evaluation form for managers and continue to collect oral feedback and to solicit letters of recommendation (see Appendix K).

TABLE OF APPENDICES

A: Math

- Results of MAA Calculus Readiness Test, 1993-94
  - Figure 1. Calculus Readiness Test, Spring 1994
- Analysis of MAA Calculus Readiness Test Results (Spring 1993)
- Table 1. MAT 121 Spring 1993 UNIFORM FINAL ANALYSIS: Percentage of Students Selecting Each Response
- Table 2. College Algebra Instructional Strategies

B: Speech

- Summary of Student Self-Evaluation Communication Survey in SPE 115
  - Figure 1. Self-Ratings of Improvement in SPE 115
- Summary of Instructor Survey of Student Progress in SPE 115
  - Figure 2. Instructor Ratings of Student Improvement in SPE 115
- Figure 3. Comparison of Student & Instructor "Strongly Improved" Ratings in SPE 115

C: English

- Guidelines for English 121 Instructors: Student Performance Objectives
- Guidelines for English 122 Instructors: Student Performance Objectives
- Survey of Students' Confidence in Their Writing Skills
  - Table 1. Students' Confidence in Research Skills...
  - English 122 Writing Survey
  - Table 2. Responses to English 122 Writing Survey, Question 11: "What writing skills do you believe you need more help with?"
- Drafts of research planning for the English accountability studies

D: Transfer Accountability Projects

E: Developmental Studies

- Definitions and Explanations of Calculations...
- Reading
  - Beginning and Exit Reading Survey
  - Reading 95 Self-Report
- English
  - Table 1. Readiness for ENG 121 by Quality of Work Submitted
- Pilot Study 1.
  - Table 2. Grades of ENG 095 Students in ENG 121
  - Fig. 1. Performance of ENG 095 Students in ENG 121
  - Table 3. Developmental Studies Tracking Analysis: English
- Pilot Study 2.
  - Table 4. Relationship of Fall English Status and Satisfactory Grade (A, B, C)
  - Table 5. Relationship of Fall English Status to Retention
  - Table 6. Relationship of Fall Reading Status to Retention
  - Table 7. Relationship of Gender to GPA and Retention
  - Table 8. Relationship of Marital Status to GPA and Retention
- Mathematics
  - Table 9. Developmental Studies Tracking Analysis: Mathematics
- General Comprehensive Education
  - Table 10. Analysis of GED
- Study Skills
  - Table 11. Comparison of Pre- and Post-test Percentiles in STS 040 and 050

F: Minority Student Data

- Student Ethnicity Enrollment Comparisons 1992-1994
  - Table 1. Enrollment Comparisons: Fall 1992 to Fall 1993
  - Table 2. Enrollment Comparisons: Spring 1993 to Spring 1994
  - Table 3. Enrollment, Graduation and Service Area Ethnicity Comparisons

continued

G: **Vocational Education**

- Example of a Syllabus Converted to a Competency-based Syllabus
- Table 1. Results of Licensure Exams: 1993-94
- Table 2. Student Satisfaction Survey: Instructors/Instruction...
- Employer Satisfaction Survey
  - EMPLOYER CONTACT PERMISSION FORM
  - Summaries of Student Contacts and Student Responses by Program Areas
    - Table 3a. Health
    - Table 3b. Business/Professional Services
    - Table 3c. Design & Technology
  - GRADUATE EMPLOYER SURVEY—SUMMARY
  - Table 4. Employer Contacts by Program Area
  - Table 5. Employer Ratings of Employee Skills
- Fig. 1. Business Computer Lab Usage, Spring 1994

H: **Retention/Persistence and Transfer Rates**

- ACC Term-to-term Retention Rates
  - Table 1. Semester-to-semester Retention/Persistence Rates for *All* ACC Students: A 1991-92 to 1993-94
  - Table 2. Semester-to-semester Retention/Persistence Rates for ACC *Part-Time* Stud Year 1993-1994
  - Table 3. Semester-to-semester Retention/Persistence Rates for ACC *Full-time* Stud Academic Year 1993-94
  - Table 4. Semester-to-semester Retention/Persistence Rates for ACC *Full-time* and *P* Students: Summary Comparisons, 1991-92 and 1993-94
  - Table 4a. Semester-to-semester Retention/Persistence Rates by Credits and Goal
- Transfer, Acceptance, GPAs and Completion/Persistence
  - Table 5. Transfer Rates of ACC Recipients to Colorado Public Four-year Institutio 1992-93
  - Table 6. Grade-point Averages (GPAs) of ACC Transfer Students to Colorado Publi Institutions: 1988-1989 to 1992-1993
  - Acceptance Rates of ACC Students
  - Table 7. Acceptance Rates of ACC Graduate Applicants to Colorado Public Four-ye 1988-1989 to 1992-1993
  - Table 8. Completion/Persistence Rates of Community College Degree Recipients A to a Colorado Public Four-year Institution: 1988-89 to 1991-92

I: **Graduating Student Satisfaction**

- Table 1. Ratings of Services: All Degrees
- Table 2. Ratings of Knowledge and Skills (by Degree)

J: **Community Education**

- Table 1. 1993-94 Community Education Student Satisfaction Survey

K: **Business and Industry**

- Table 1. Summary of Responses to Question 10: "Overall I was satisfied with this trai Customized Classes
- Table 2. Summary of Responses to Question 10: "Overall I was satisfied with this trai Classes
- Table 3. Summary of Responses to Question 10: "Overall I was satisfied with this train FIRST/Existing Industry
- Table 4. Summary of Responses to Question 10: "Overall I was satisfied with this trai Classes
- Sample Letters of Recommendation from Corporate Clients of Business and Industry D
  - McDonald's
  - Metrum Information Storage

Results of Calculus Readiness Test, 1993-94

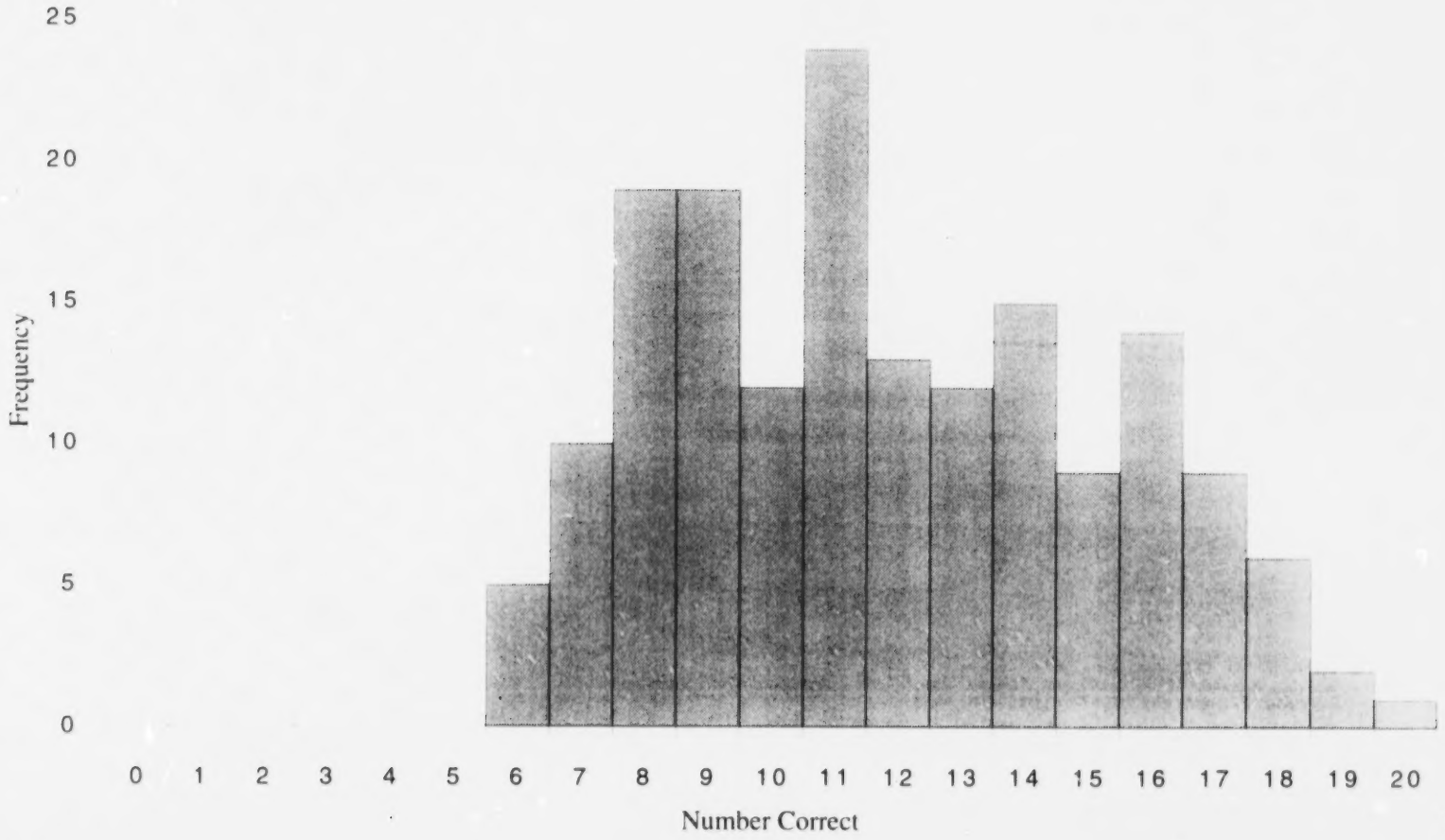
The 20-question nationally normed MAA Calculus Readiness Test was administered to students in College Algebra Fall 1993 and Spring 1994. The results from both semesters were better than those reported in the 1992-93 Accountability Report and consistent with results from earlier years. The results for the last three semesters are tabulated below (see Figure 1 for the distribution of scores for Spring 1994). The average score as measured by both the median and the mean increased by one in the Fall; although the median returned to 11 Spring 1994, the minimum score increased and the mean continued to increase.

	N	Mean	Median	St Dev	Min	Max	Q1	Q3
Sp '93	197	10.482	11.0	3.286	2.0	18.0	8.0	13.0
Fa '93	195	11.462	12.0	3.612	2.0	20.0	9.0	14.0
Sp '94	170	11.806	11.0	3.397	6.0	20.0	9.0	14.0

Summary

ACC students continue to perform as well as students at comparable institutions. Although improvements in students' problem-solving skills can still be made, the Math faculty feel that students who have earned at least a C in MAT 121 have been prepared in this area for transfer to a four-year college or university. Specifically, this refers to the student's ability to apply qualitative and quantitative reasoning skills and to objectively analyze and synthesize data.

Fig. 1. Calculus Readiness Exam, Spring 1994



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Analysis of MAA Calculus Readiness Test Results (Spring 1993)

In Spring 1993, the MAA Calculus Readiness Test was given to all students completing College Algebra (MAT 121). The results were reported in the 1992-93 Accountability Report. To determine whether any additional information could be gleaned from the exam, a detailed item analysis of the exam responses was conducted in Fall 1993 (see Table 1).

The percentage of students selecting each response was tabulated. Results were compared section by section and over all, and distributed to the faculty involved.

On a positive note, 5 of the 20 questions (8, 9, 13, 14, and 20) were answered correctly by 73% or more of the students. Four of the 5 questions involved some type of graphing. The percentage of correct responses is an improvement over previous exams. Faculty efforts to improve students' visualization have apparently been effective.

On a less positive note, students continue to have difficulty solving problems which require several steps or which require analytic skills. Faculty communications with faculty at other colleges and universities indicate that this is a very common difficulty. It is the highest level of cognition and therefore not an easy level to reach. However, ACC Math faculty will continue to try to develop students' abilities to master this level. Table 2 lists some of the strategies pursued by individual faculty.

Table 1. MAT 121 Spring 1993 UNIFORM FINAL ANALYSIS
Percentage of Students Selecting Each Response

Item	Response					
	A	B	C	D	E	Blank
1	13.6	23.7	8.6	8.6	45.5*	0.0
2	10.1	3.5	2.5	56.6*	27.3	0.0
3	8.1	4.6	24.8*	59.1	3.0	1.0
4	5.6	11.1	12.1	27.3*	43.9	0.0
5	15.2	52.5*	28.8	1.5	1.5	1.0
6	11.1	13.1	56.1*	9.6	9.6	1.0
7	19.7	39.4*	8.6	2.0	29.8	1.0
8	79.3*	6.1	2.5	7.1	5.1	0.0
9	85.9*	4.6	5.1	2.0	2.5	0.0
10	8.6	56.1*	3.5	24.8	6.6	1.0
11	12.1	5.1	31.8	10.6*	39.9	1.0
12	15.2	65.7*	9.1	7.1	2.0	2.0
13	4.0	2.0	2.5	2.5	87.9*	2.0
14	1.5	9.1	1.0	85.9*	2.5	0.0
15	23.7*	7.6	20.2	18.7	28.3	3.0
16	12.6	15.2	46.0*	14.7	10.6	2.0
17	15.7	25.3	14.7*	30.3	13.1	2.0
18	5.1	5.1	6.1	69.2*	12.6	3.9
19	9.1	14.1	52.5*	9.6	13.1	3.0
20	9.1	3.5	2.5	73.2*	9.6	2.0

N = 198 (1 took the test late; his score was not included in the summary on the previous page)
* Correct answer

Table 2. College Algebra Instructional Strategies

Following is a list of strategies some of the Math faculty are using to try to improve students' problem-solving skills.

1. Use a graphical/numerical/analytical learning approach.
   This is the approach adopted in several Calculus Reform projects. It requires the student to look at the problems from several perspectives. The faculty believe it gives College Algebra students more insight into what they are doing in each area.

2. Use more realistic and open-ended problems.
   The faculty are giving more problems in which students are required to choose an appropriate mathematical model for solving the problem.

3. Emphasize organizational skills.
   This involves helping the students learn how to draw on the skills that they do have to solve the problem. Often the student has the skills but is not able to put the skills together in a way appropriate to solving the problem. The student needs a system for trying different approaches and an understanding that often several approaches must be tried before a useful one is found. Students often have the misconception that math experts immediately perceive the correct solution rather than having to experiment in this manner.

4. Approach the same problem from different perspectives.
   The faculty try to model in class the skills they are asking students to apply on their own. Faculty pose the same problem in different ways or from different perspectives.

5. Help the students articulate what they are doing, or write about what they are doing.
   On some levels of mathematics, particularly beginning levels, this approach is useful as a way of getting students to understand their own thought processes.

6. Develop the student's intuition and number sense.
   The student should have some feeling that he/she is going in a direction that makes sense, and that the answer is reasonable.

7. Include the enhancement of metacognitive abilities as one of the course objectives.
   In addition to developing symbolic manipulation abilities and conceptual understanding, the student is expected to demonstrate advanced thinking skills. Included is developing systematic methods of analyzing problems, demonstrating flexibility in thinking, becoming aware of their own thinking processes, checking for accuracy and precision, drawing on past knowledge and experience, and developing precision of language and thought. The objectives would be included in the course objectives and grading.

Following are Summaries of the Student and Faculty Surveys used to assess SPE 115 Fall 1993, with tallies of responses included, and three graphs of results. A complete copy of the report of the Speech Task Force Committee is available from the Chair of the Transfer Accountability Committee.

To encourage honest responses, student surveys were administered by students and submitted directly to the Division office.

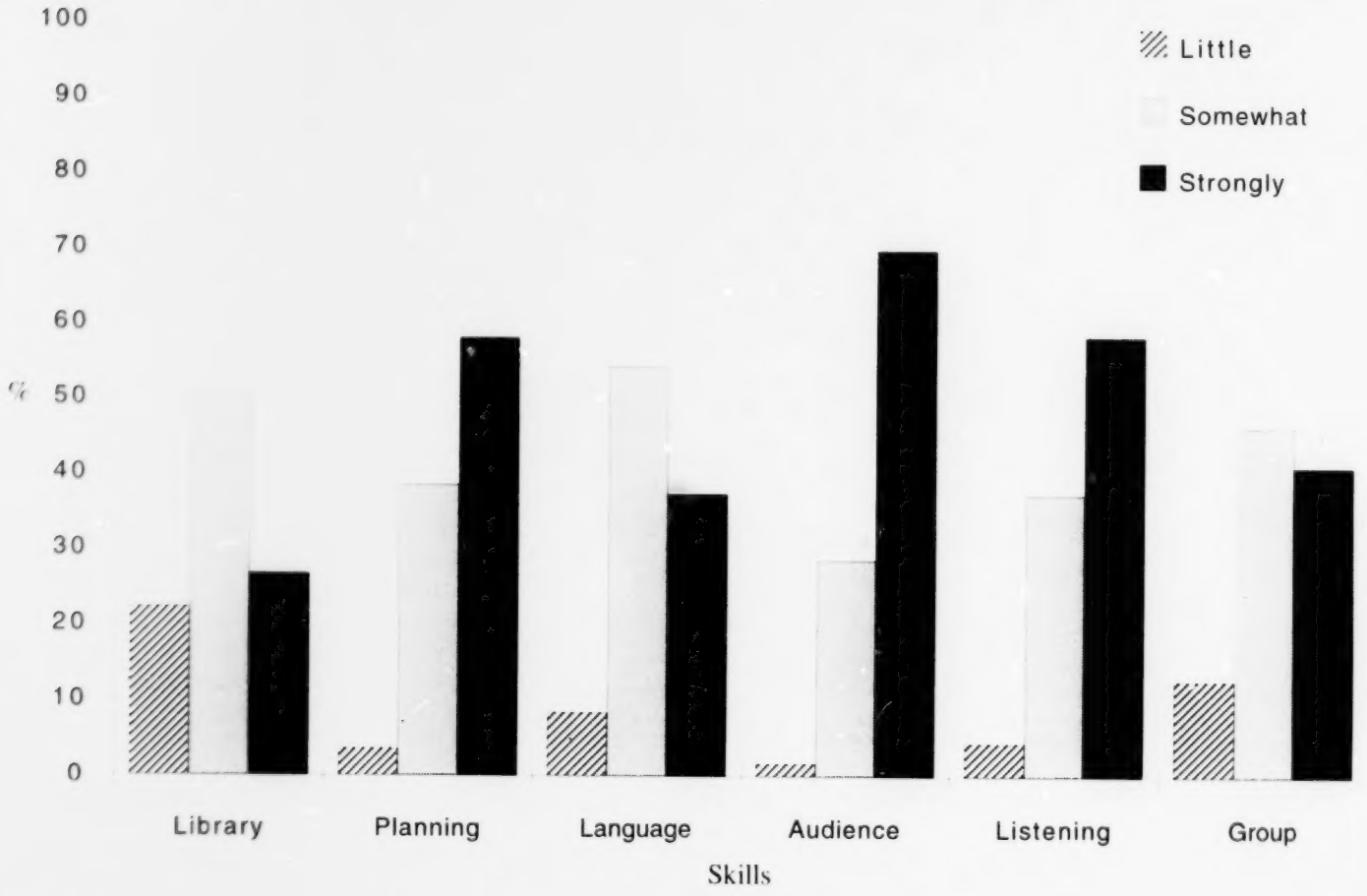
Summary of
Student Self-Evaluation Communication Survey in SPE 115*

[The survey included the following instructions:
Please answer the questions below that address the development of communication skills which were emphasized in your SPE 115 class. Place an "X" under the category that best describes your progress since the beginning of the semester. Your instructor will be filling out a survey which will include numbers 2 - 5 below.]

	Little Improvement	Somewhat Improved	Strongly Improved
1. Development of my library research skills.	22.2%	51.2%	26.6%
2. Ability to select, organize, and outline materials for public presentation.	3.5%	38.5%	58.0%
3. Ability to use the English language in both written and oral communication.	8.3%	54.3%	37.3%
4. Ability to orally communicate in front of an audience through preparation and practice.	1.6%	28.6%	69.8%
5. Ability to listen critically to oral presentations of others.	4.4%	37.3%	58.3%
6. Knowledge of how small groups function through participation in small-group decision-making.	12.6%	46.4%	41.0%

* See related graphs in Figure 1 and Figure 3.

Fig. 1. Self-Ratings of Improvement in SPE 115



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Summary of
Instructor Survey of Student Progress in SPE 115*

[The survey included the following instructions:
Please answer the questions below in reference to each student's progress in your SPE 115 class(es). A space is provided for comments if you feel that an additional explanation would be helpful. (This should include students who have made exceptional progress as well as those with difficulties.)]

	Little Improvement	Somewhat Improved	Strongly Improved
1. Development of my library research skills.	(This question was not included in instructor survey.)		
2. Ability to select, organize, and outline materials for public presentation.	17.0%	55.6%	27.4%
3. Ability to use the English language in both written and oral communication.	21.3%	54.8%	23.9%
4. Ability to orally communicate in front of an audience through preparation and practice.	19.5%	40.9%	39.6%
5. Ability to listen critically to oral presentations of others.	20.4%	52.6%	27%
6. Knowledge of how small groups function through participation in small-group decision-making.	(This question was not included in instructor survey.)		

* See related graphs in Figure 2 and Figure 3.

Fig. 2. Instructor Ratings of Student Improvement in SPE 115

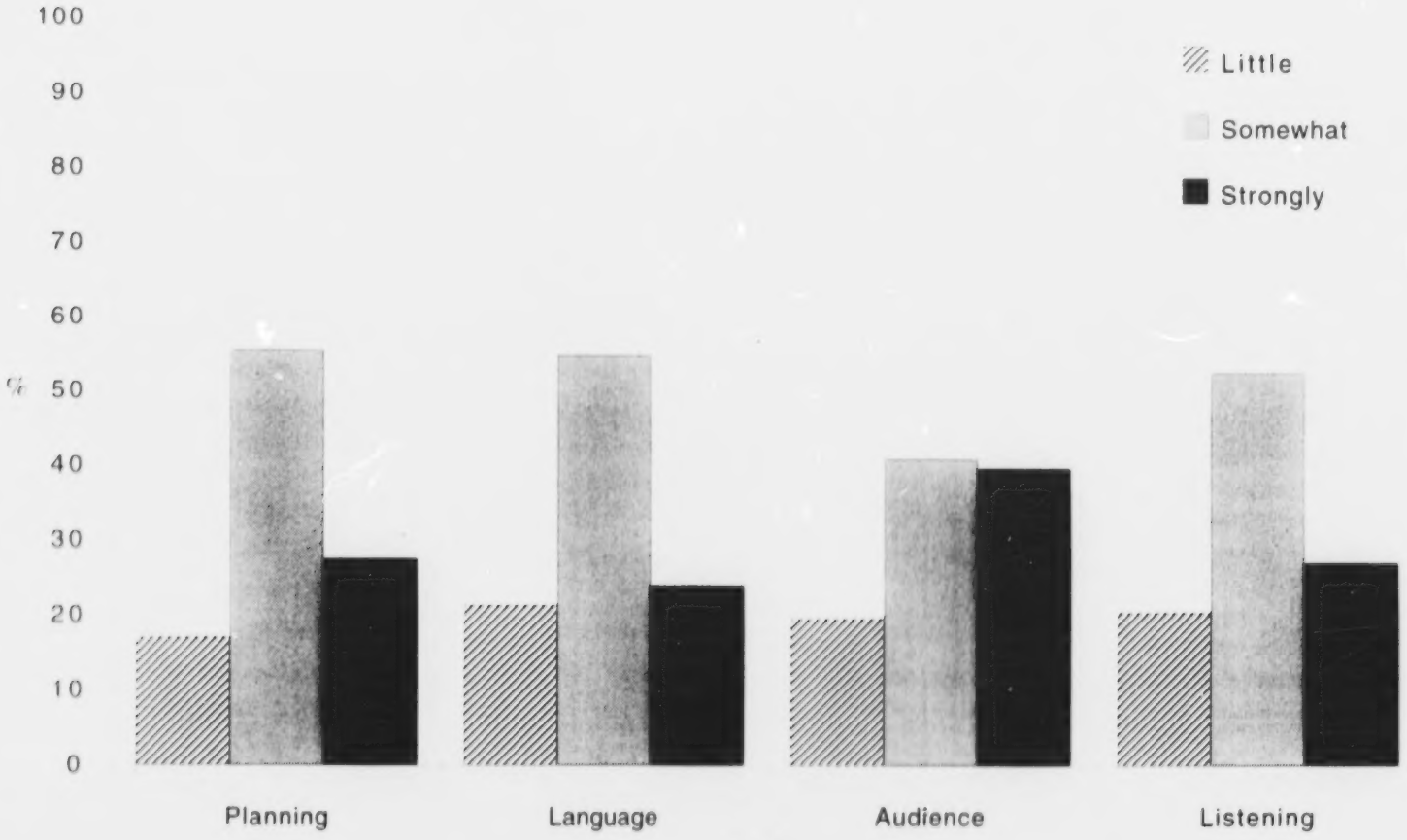

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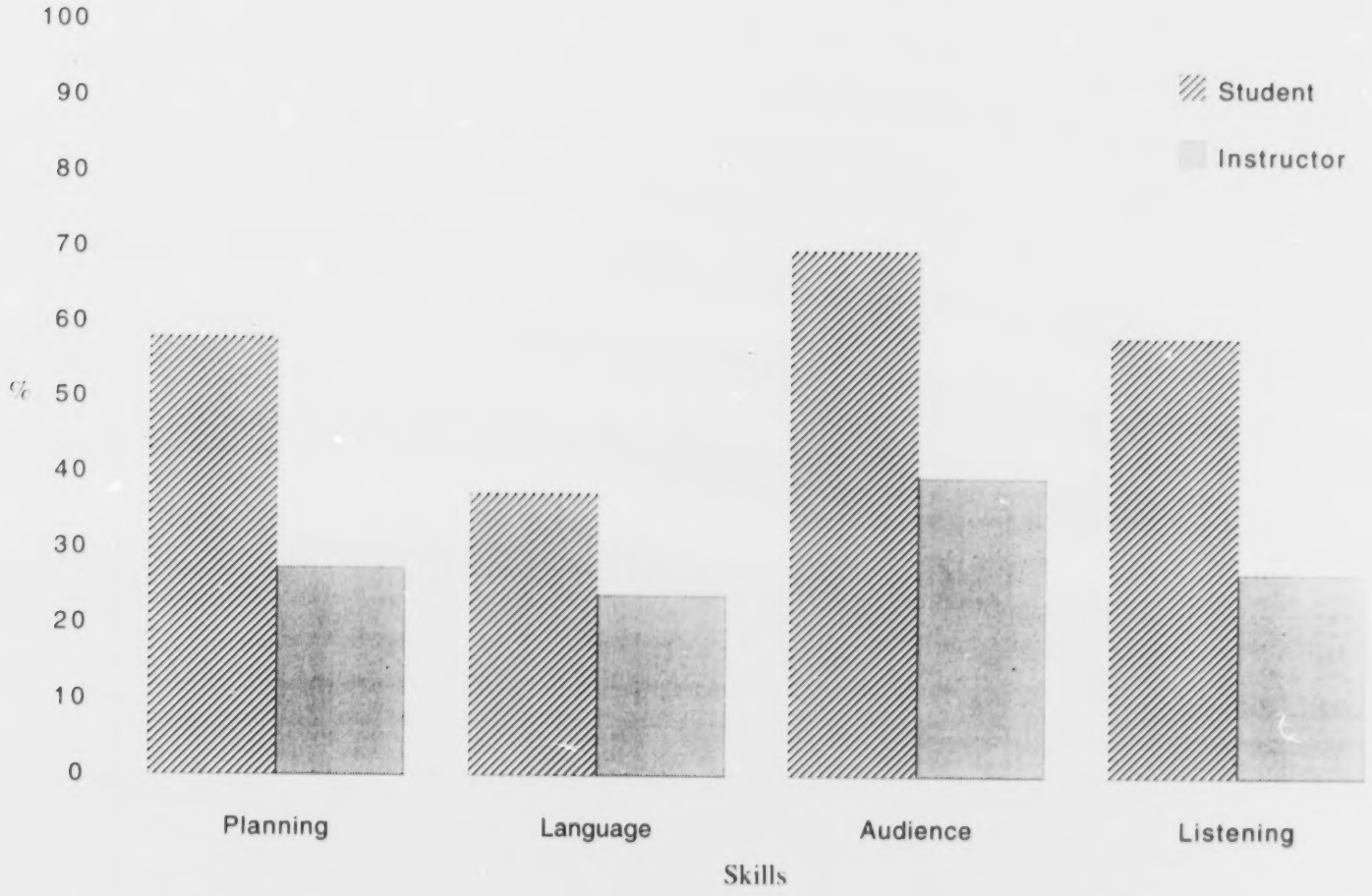
Fig. 3. Comparison of Student & Instructor "Strongly Improved" Ratings in SPE 115



Arapahoe Community College

GUIDELINES FOR ENGLISH 121 INSTRUCTORS: STUDENT PERFORMANCE OBJECTIVES

The primary purpose of English 121 is the planning, writing, and revising of essays, and the development of critical/logical thinking and reading skills and of basic research skills. The focus of English 121 is on non-fiction and the essay, not on fiction.

WRITING REQUIREMENTS

Students should be able to understand writing as a process

- to find audience and purpose
- to generate ideas
- to plan and prewrite
- to draft
- to revise/edit
- to proofread.

Students should be able to write essays that meet

- the length required by the assignment
- MLA manuscript style as presented in the handbook.

Students should be able to write essays that have

- **titles** that give insight into the thesis
- a **subject** appropriate to the assignment
- a **thesis statement** that is
  - appropriate to the assignment
  - unified, restricted, and precise
- an **outline** with at least a 2-level MLA format
  - margins and indentations
  - notation system
  - parallel construction
  - logical divisions and subdivisions
- an effective **organization** that includes
  - an **introduction** that
    - catches the reader's attention
    - is appropriate to the purpose and audience
  - a **body** in which
    - the thesis is developed in logical order, with
      - adequate details
      - relevant details
      - specific details
    - transitions relate
      - the major sections of the essay to the thesis
      - one paragraph to another
  - an **ending/conclusion** that
    - provides effective closure to the essay
    - is appropriate to the purpose and audience
    - leaves the reader with a clear sense of the thesis and the purpose of the essay
- **paragraphs** that have
  - a clearly stated or implied topic sentence which is clearly related to the thesis
  - unity
  - coherence
  - logical order
  - adequate detail
- **sentences** that
  - are generally clear
  - use subordination and coordination effectively
  - use appropriate voice
  - are free of fragments and run-ons (fused clauses and comma splices)

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- **diction** that is
  - appropriate to the purpose and audience
  - correct
  - precise.

READING AND CRITICAL THINKING REQUIREMENTS

Students should read essays actively, respond critically, and be able to

- state the thesis
- identify the author's supportive details
- paraphrase and summarize ideas
- analyze and evaluate form, style, content, and context
- relate ideas discussed in class to other contexts

RESEARCH REQUIREMENTS

Students should be able to use the major resources of the library to conduct research, including the following:

- The CARL System
- General references
- General periodical/journal indexes--print and electronic
- Specialized indexes and references.

Students should be able to write formal essays

- following the MLA format, which uses
  - primary and secondary sources
  - library and non-library sources
  - parenthetical references
  - Works Cited list
- analyzing and incorporating sources of information
- analyzing and evaluating the strengths and weaknesses of an argument
- in various ways, including but not limited to,
  - running-text quotations
  - block-format quotations
  - paraphrases
  - summaries.

LEARNING ENVIRONMENT

Students should be encouraged to

- view reading and writing as a process of discovery
- read and write with a clear understanding of purpose and types (modes) of writing
- increase their vocabulary, paying special attention to lexical and figurative meanings
- develop a sense of responsibility in the learning process
- monitor their own comprehension and ask questions as needed
- develop a sense of being a part of a community of learners.

GUIDELINES FOR ENGLISH 122 INSTRUCTORS: STUDENT PERFORMANCE OBJECTIVES

The primary purpose of English 122 is the development of research skills and critical/ logical thinking and writing. Although literature is the primary object for developing these skills, English 122 is not a literature course per se. It is a writing course focusing on research.

NOTE: Students who have taken English 121 at other institutions may not have been introduced to research or to the MLA guidelines. By the end of English 122, all students should have a reasonable mastery of research skills.

English 122 expands and refines the following requirements from English 121:

RESEARCH REQUIREMENTS

Students should be able to use the major resources of the library to conduct research, including the following:

- The CARL System
- General references
- General periodical/journal indexes--print and electronic
- Specialized indexes and references

Students should be able to write formal essays

- following the MLA format, which uses
  - primary and secondary sources
  - library and non-library sources
  - parenthetical references
  - Works Cited list
- analyzing and incorporating sources of information
- analyzing and evaluating the strengths and weaknesses of an argument
- in various ways, including but not limited to
  - running-text quotations
  - block-format quotations
  - paraphrases
  - summaries

English 122 places more emphasis than English 121 on

- problem definition
- analysis of data
- evaluation of data.

WRITING REQUIREMENTS

Students should be able to understand writing as a process

- to find audience and purpose
- to generate ideas
- to plan and prewrite
- to draft
- to revise/edit
- to proofread.

Students should be able to write essays that meet
- the length required by the assignment
- MLA manuscript style as presented in the handbook.

Students should be able to write essays that have
- **titles** that give insight into the thesis
- a **subject** appropriate to the assignment
- a **thesis** statement
- an **outline** with at least a 2-level MLA format
- an effective **organization**
- coherent **paragraphs**
- clear **sentences**
- appropriate **diction.**

English 122 expects a greater level of mastery than English 121 of the above writing requirements.

READING AND CRITICAL THINKING REQUIREMENTS

Students should read essays actively, respond critically, and be able to
- state the thesis
- identify the author's supportive details
- paraphrase and summarize ideas
- analyze and evaluate form, style, content, and context
- relate ideas discussed in class to other contexts.

English 122 adds the following Reading Requirements:

Students will read short stories and should be able to
- determine the overall purpose/idea/theme
- recognize possible ways to break the overall work into parts, such as
  - plot/organization
  - devices used
  - stages of character development
  - sub-division of the overall idea
- explain in detail how each part functions
- determine how these separate parts interrelate to contribute to or create the overall purpose/theme/idea.

LEARNING ENVIRONMENT

Students should be encouraged to
- view reading and writing as a process of discovery
- read and write with a clear understanding of purpose and types (modes) of writing
- increase their vocabulary, paying special attention to lexical and figurative meanings
- develop a sense of responsibility in the learning process
- monitor their own comprehension and ask questions as needed
- develop a sense of being a part of a community of learners.

Survey of Students' Confidence in Their Writing Skills

During the last week of Spring 1994, English 122 instructors administered a confidence survey (see next page) to their students at the request of the English Department. The survey was developed by the English Department in conjunction with the Transfer Accountability Committee.

Of the 325 students enrolled in the course at that time, 234 (72%) were present when the survey was administered; however, since 19 of the respondents did not include either their name or student identification number, their responses could not be cross-tabulated with their grades in the course. There were no significant relationships between students' confidence in their various writing skills and their grades in the course; however, the relationship between grades and confidence in writing research papers approached significance (.089); see Table 1. As the table indicates, students with higher grades tended to be more confident than those with lower grades; the small frequency of "less than satisfactory" students participating in the survey (9 total) makes it difficult to interpret their "confidence." One explanation is that an unrealistic estimation of their skills contributed to their poor performance in the course; another explanation is that other factors influenced their grades in the course (e.g., excessive absences and/or failure to submit major assignments).

Table 1. Students' Confidence in Research Skills, as a Function of Grades in ENG 122

Grade	Confident		Very Confident		Combined	
A (70)	40.0%	(28)	50.0%	(35)	90.0%	(63)
B (76)	40.8%	(31)	31.6%	(24)	72.4%	(55)
C (49)	46.9%	(23)	32.7%	(16)	79.6%	(39)
D (5)	40.0%	(2)	0.0%		40.0%	(2)
F (4)	25.0%	(1)	75.0%	(3)	100.0%	(4)
Total: 204		85		78		163

Question 11 of the survey asked "What writing skills do you believe you need more help with?" As Table 2 indicates, the greatest perceived need was with "grammar & mechanics." However, 79 (33.8% of the 234 respondents, including the "anonymous" ones) listed no skills; 66 students (28%) left this question blank; 9 (3.8%) felt they need no additional help.

The results of the survey will be shared with the English faculty during Fall 1994.

Arapahoe Community College

WRITING SURVEY

We would appreciate your taking a few minutes to complete the following survey.
Your responses will help us evaluate our program. All personal information will be kept confidential.
The English Department

1 Name _____

2 Student number _____

3 What is your educational goal at ACC? AA ☐ AS ☐ AGS ☐ AAS ☐ Undecided ☐

4 What is your major? _____

5 When do you plan to complete your current degree? _____

6 Do you plan to pursue a bachelor's degree? Yes ☐ No ☐

How confident would you feel if you were asked to write the following types of assignments in other college courses?

	Very Confident	Confident	Undecided	Unconfident	Very Unconfident
7 Summaries	○	○	○	○	○
8 Argumentative/persuasive papers	○	○	○	○	○
9 Analytical/critical papers	○	○	○	○	○
10 Research papers	○	○	○	○	○

11 What writing skills do you believe you need more help with?

Please continue on the other side if you need more space.

Table 2. Responses to English 122 Writing Survey, Question 11:
"What writing skills do you believe you need more help with?"

Response	#
No response, "none," undecided, not applicable	**79**
no response	66
"none" or direct statement of confidence or "—"	9
undecided/"I'm not sure." (One wrote and crossed out "I don't know.")	2
"NA"	2
Grammar & Mechanics	**91**
"grammar"	28
"basic grammar"	1
"basic grammar - spelling, etc."	1
grammar, etc.	1
"Grammar (i.e., Puncuation [*sic*])"	1
"Grammer [*sic*]. Sentence structure."	1
"overall layout of the paper"	1
"mechanics"	12
"punctuation"	10
"commas"	7
spelling	8
sentence structures and fragments	5
"run-on sentences"	3
sentence structure/better sentence structure	2
"sentence composition"	1
"quotation"	2
"citing quotes and/or titles"	1
apostrophes	2
passive voice	1
verb tense consistency	1
"proper writing skills"	1
"technical part"	1
Analysis/interpretation, analytical/critical papers	**24**
analytical "&"/"or" critical papers	12
"critical papers"	6
"analytical papers"	1
"analyzing literature"	2
"interpretation of short stories"	1
"characterization & theme papers"	1
"characterizations"	1
Research & documentation skills	**19**
research papers/skills	12
"research & doc"	2
"types of bibliographies"	1
"incorporating information into research papers"	1
"Research of topics. Finding the materials and where to look."	2
research - "Using sources"	1

continued

Other	**15**
"creative technique"/skills	2
"creative writing"	2
"descriptive papers"	1
"composition of thesis sentence"	1
"writing about what I read"	1
"essays"	1
"narrative writing"	1
"I can always improve on my writing skills."	1
"understanding the assignment"	1
"To bend my writing style so it corresponds with that of a scholarly nature and strips me of all my originality."	1
"Presentation, and attention to detail within the grammar of my writing."	1
"statistical"	1
"edicate" [etiquette?]	1
Irrelevant	**6**
Total*	**285**

*The total is greater than 234 because some students listed more than one skill.

Development, expressing ideas, coherence, clarity, focus	**16**
"developing a thesis"	1
"developing and sticking to an idea"	1
"development & flow"	1
"idea development"	1
"expanding ideas"	1
"expressing exactly what I want to say"	2
clarity	1
"expressing the topic"	1
transitions/flow	3
coherence	1
focus	1
"Focusing on idea of paper. Simplifying, explaining more clearly ideas."	1
"body of the paper"	1
"introductions"	1
Diction, vocabulary, usage	**9**
"being more concise"	2
"diction"	1
"vocabulary"	2
"word power"	1
word usage	1
wording	2
Argumentative/persuasive papers	**8**
Organization & structure	**7**
"organizing my thoughts"	2
"organization of ideas"	1
"organizing thoughts in timely fashion"	1
"organization"	1
"outlines"	1
"correct structure of an essay"	1
Getting started	**6**
"getting started with a topic"	2
"finding a topic"	1
"finding a topic I am interested in so I can enjoy the writing"	1
"getting started on writing the paper"	1
"freehand writing" (writer's block)	1
Summaries	**5**
"summaries"	4
"summaries of literature"	1
"All"	**3**

continued

TO: The Transfer Accountability Committee

FROM: Peggy Cole and Jim Parker

DATE: April 22, 1994

RE: Drafts of research planning for the English accountability studies [1994-95]

Attached are drafts of our plans for accountability studies for 1994-95 (the spring 1994 study is already underway). We asked some faculty to critique earlier versions of these plans and revised them extensively. We have also worked closely with Frank Markley in phrasing our research questions and in designing options for answers so that students' responses will facilitate the kind of statistical analyses that will be the most productive.

We have also talked with Sandy Panetta, chair of the Writing Across the Curriculum Committee, about jointly surveying instructors in the fall (our survey 2, which focuses on writing skills, could be incorporated into a more comprehensive survey on communication skills).

Please review these items for discussion at the Transfer Accountability Committee meeting on April 28.

After the committee approves our basic plan, we will develop and pilot the student survey(s).

Research issues for writing skills (stability of constructs)

1. Do students who have taken English 122 feel confident in their ability to write the kinds of papers :
   a. they are required to write in other classes at ACC?
   b. they will be required to write in their intended majors when they transfer?

2. Does educational maturation affect confidence level (does confidence level change after students have taken other courses that require writing)? Is there an interaction between educational maturation and experience with English 122?
   Is there any difference in the levels of confidence in the writing ability of students who have completed at least 45 credit hours at ACC and have completed English 122 with an earned grade of C or better and those who have not taken English 122 or did not earn at least a C? (differentiate those who received less than C for reasons other than mastery—e.g., some students receive D's for excessive absences or failure to complete all assignments).

3. Is there any difference in the levels of confidence in the writing ability of students who have completed English 122 with an earned grade of C or better and those who have not taken English 122 or did not earn at least a C? (differentiate those who received less than C for reasons other than mastery—e.g., some students receive D's for excessive absences or failure to complete all assignments).

additional variables of interest include, for example,
   age
   sex
   GPA
   semester GPA
   number of credits
   recency of English 122
   where students took English composition (ACC or elsewhere)
   number of credits transferred in

Surveys

1. Spring semester 1994, survey students in English 122 during the next to the last week of the semester (with a rating scale and open-ended questions):
   a. How confident do you feel to write the following types of papers in courses in your major?
      1) summaries
      2) argumentative papers
      3) analytical/critical papers
      4) research papers
   b. What writing skills do you feel you still need help with?

   Use these students for follow up in subsequent surveys (e.g., below).

2. During the second week of fall semester 1994, survey every transfer class (not course) to determine:

   [In the cover letter, we will emphasize that this information will in no way be used to evaluate the instructor, but will be used to help the Transfer Accountability Committee identify potential courses which can be used to gain information about transfer-bound students' mastery of writing skills.]

Rate the following on a scale (very unconfident, unconfident, undecided, confident, very confident, with -2, -1, 0, 1, 2—include a choice such as "not familiar with"):

a. How confident do you feel to write the following types of papers in courses in your intended major?
   1) summaries
   2) argumentative papers/essays
   3) analytical/critical papers/essays
   4) research papers/essays
   5) other types of writing required in your intended major—
      please specify each type
      a)
      b)
      c)

b. How confident do you feel about your ability to do the following:
   1) analyzing data objectively and synthesizing data;
   2) reading critically and responding logically to information and ideas, using both oral and written language skills (for example, these might include identifying assumptions and basic issues; using clear and explicit criteria for evaluating information and ideas; qualifying findings, interpretations, and generalizations as appropriate);
   3) writing well-organized compositions that focus on critical analysis, interpretation, and evaluation (including, for example, defining terms; clearly stating the main and subordinate ideas; and providing adequate support for generalizations);
   4) using the basic resources of a library to conduct research.

c. Do you feel you could use additional help with any of the following?
   (use a scale of 0 - 4—none, not much help, undecided, some help, a lot of help)
   1) spelling
   2) punctuation
   3) writing complete sentences
   4) writing effective paragraphs
   5) formulating the main idea of a paper
   6) planning a paper
   7) writing summaries
   8) writing argumentative papers
   9) writing analytical/critical papers
   10) writing research papers
   11) writing other types of papers required in your intended major—
      please specify each type
      a)
      b)
      c)
   12) analyzing data objectively;
   13) synthesizing data;
   14) reading critically and responding logically to information and ideas, using both oral and written language skills;
   15) using the basic resources of a library to conduct research.

d. Please check any of the following that you have had.
   1) English 121 (first-semester college-level composition)
      at ACC _____
      at another college _____
   2) English 122 (second-semester college-level composition)
      at ACC _____
      at another college _____

e. How helpful would you say English 121-122 (or equivalent courses at another college) were in preparing you for the type of writing you have had to do in other courses? (scale

a. Which of the following skills do you require of your students in the class?
   1) analyzing data objectively and synthesizing data;
   2) reading critically and responding logically to information and ideas, using both oral and written language skills (for example, these might include identifying assumptions and basic issues; using clear and explicit criteria for evaluating information and ideas; qualifying findings, interpretations, and generalizations as appropriate);
   3) writing well-organized compositions that focus on critical analysis, interpretation, and evaluation (including, for example, defining terms; clearly stating the main and subordinate ideas; and providing adequate support for generalizations);
   4) using the basic resources of a library to conduct research.

b. What types of written assignments, if any, do you require of your students in the course?
   1) summaries
   2) argumentative papers/essays
   3) analytical/critical papers/essays
   4) research papers/essays
   5) other types of writing required in your subject area/discipline—
      please specify each type
      a)
      b)
      c)

c. What elements of students' writing, if any, do you evaluate?
   1) spelling
   2) punctuation
   3) effective sentences (complete, coherent, etc.)
   4) clear main idea
   5) effective organization
   6) logical argument
   7) appropriate sources in research
   8) correct documentation style
   9) original ideas
   10) adherence to style requirements (letter format, report format, essay format, etc.)
   11) other (please specify
      a)
      b)
      c)

3. For students in courses which we survey (courses which require some writing), ask the questions below during the next to the last week of the semester. With student number, we will be able to access the student data base to analyze responses in terms of whether students have had English 121, 122; their grades in those courses, their GPA; and the number of cumulative credits at ACC. Administer the survey during the last or next to the last week of the fall semester 1994.

   [The directions on the survey will emphasize that students' responses will be confidential and that responses will be used to assess the quality of ACC's instructional programs and not be used to evaluate instructors or students.]

   Name ¡Based on Committee feedback, the name will not be requested.]
   Student Number
   Are you seeking a degree at ACC? (Yes, No)
      If so, what type? (give choices)
   Plan to transfer (yes/no)
      If you plan to transfer, what major do you plan at this point?

0-4, 0 = not at all helpful; 2 = undecided; 4 = very helpful; plus a "not applicable" response option)

4. For students who have completed English 122 and at least 45 credits at ACC, or for students surveyed in English 122 spring semester 1994, ask the following questions in a mail survey. With student number, we will be able to access the student data base to analyze responses in terms of grades in English 121 and 122, their GPAs, and the number of cumulative credits at ACC.

[If we do a mail survey, we will have to include an incentive to complete and return it. The directions on the survey will emphasize that students' responses will be confidential and that responses will be used to assess the quality of ACC's instructional programs and not be used to evaluate instructors or students. Mail the survey after grades are mailed fall semester 1994.]

Name [Based on Committee feedback, the name will not be requested.]
Student Number
Are you seeking a degree at ACC? (Yes, No)
If so, what type? (give choices)
Plan to transfer (yes/no)
If you plan to transfer, what major do you plan at this point?
Rate the following on a scale (very unconfident, unconfident, undecided, confident, very confident, with -2, -1, 0, 1, 2—include a choice such as "not familiar with"):

a. How confident do you feel to write the following types of papers in courses in your major?
   1) summaries
   2) argumentative papers/essays
   3) analytical/critical papers/essays
   4) research papers/essays
   5) other types of writing required in your intended major—
      please specify each type
      a)
      b)
      c)

b. How confident do you feel about your ability to do the following:
   1) analyzing data objectively and synthesizing data;
   2) reading critically and responding logically to information and ideas, using both oral and written language skills (for example, these might include identifying assumptions and basic issues; using clear and explicit criteria for evaluating information and ideas; qualifying findings, interpretations, and generalizations as appropriate);
   3) writing well-organized compositions that focus on critical analysis, interpretation, and evaluation (including, for example, defining terms; clearly stating the main and subordinate ideas; and providing adequate support for generalizations);
   4) using the basic resources of a library to conduct research.

c. Do you feel you could use additional help with any of the following?
   (use a scale of 0 - 4—none, not much help, undecided, some help, a lot of help) 1) spelling
   2) punctuation
   3) writing complete sentences
   4) writing effective paragraphs
   5) formulating the main idea of a paper
   6) planning a paper
   7) writing summaries
   8) writing argumentative papers
   9) writing analytical/critical papers
   10) writing research papers

11) writing <u>other</u> types of papers required in your intended major—
please specify each type
a)
b)
c)

12) analyzing data objectively;
13) synthesizing data;
14) reading critically and responding logically to information and ideas, using both oral and written language skills;
15) using the basic resources of a library to conduct research.

d. Please check any of the following that you have had.
1) English 121 (first-semester college-level composition)
at ACC _____
at another college _____
2) English 122 (second-semester college-level composition)
at ACC _____
at another college _____

e. How helpful would you say English 121-122 (or equivalent courses at another college) were in preparing you for the types of writing you have had to do in other courses? (scale 0-4, 0 = not at all helpful; 2 = undecided; 4 = very helpful; plus a "not applicable" response option???)

Transfer Accountability Projects

The goal of Transfer Accountability is to assess whether ACC is meeting its mission and accomplishing its general education goals relative to graduates wishing to transfer. Specifically, transfer accountability rests in ascertaining whether education at ACC contributes sufficiently to the graduate's development of declarative knowledge and intellectual skills. Graduates from ACC "should be able to think and communicate clearly and effectively, formulate valid concepts, analyze arguments, and define and orient themselves to their world in a mature fashion." These skills, which should enable the student to transfer successfully to four-year educational institutions, are measured on two levels.

> On the macro level we look at the picture as shown by data about students graduating and transferring from ACC. Some of the data, such as graduate or transfer student satisfaction with instruction and skill development while at ACC, are gathered from the students themselves. Other data, such as acceptance and transfer rates, transfer GPA, and four-year completion rates, are collected from the four-year educational institutions to which the students transfer.

> On the micro level, we look at details of the learning process to see if our students are achieving the objectives ACC recognizes for transfer graduates. Faculty are encouraged to look at courses and course structure, as well as to ask and to find the answers to meaningful research questions about student learning and its attendant processes. If problems are identified, faculty are encouraged to take action to improve instruction.

The committee has agreed that our system for assessment at the micro level should be flexible, involve most faculty (over time), allow for innovation and experimentation, and be capable of responding to possible problems. Although it can certainly be a means of provoking discussion, it is not intended to be a means of requiring change without the consent of the faculty involved.

Assessment projects will be expected from the major areas of the transfer degrees. These include English/Speech, Math/Science, Humanities, and Social and Behavioral Sciences, as well as any other area with courses intended for transfer. Projects may be ongoing or be conducted only once on an experimental basis. They may address questions of interest to individual faculty or departments or respond to problems identified by the Transfer Accountability Committee.

The projects should be directed towards one or more of the transfer objectives ACC has for its graduates:

1) to think critically about a variety of human issues;
2) to apply qualitative and quantitative reasoning skills;
3) to analyze data objectively and synthesize data;
4) to read critically and respond logically to information and ideas, using both oral and written language skills;
5) to plan and write well-organized compositions that focus on critical analysis, interpretation, and evaluation;
6) to use the basic resources of a library to conduct research.

However, individuals and groups will have wide latitude in designing assessment procedures for their respective areas. The committee and the Institutional Research Office will be available to help faculty or groups design projects. Copies of current and past Accountability projects at ACC, and possibly other institutions, will be available as examples.

Each fall semester, at least one accountability project will be conducted for the following year's accountability report. The project report, including any recommendations for curriculum revision, is due by March 15.

During the same time, the committee will begin the process of identifying at least one accountability project for the following academic year. The committee will communicate with division deans, department chairs, and individual faculty about the accountability process. Projects will be invited from all areas for the following academic year, or, if a problem has been identified, the committee will indicate courses or program areas from which a project is requested.

By March 1 of each year, the committee will select projects and identify follow up needed for the following year's accountability report. The faculty will be consulted and an appropriate schedule will be made. The committee will ensure that there is at least one suitable project each year and that, over time, the projects are distributed over a range of areas. This will enable the college to maintain a broad perspective on the success of its transfer degrees.

The Transfer Accountability Committee in no way wants to constrain faculty and departmental efforts to assess and improve instruction. Our hope is that assessment of instruction will become an integral part of all courses at ACC. The committee will encourage faculty and departments to assess and improve instruction on an ongoing basis.

Definitions and Explanations of Calculations in Developmental Studies Appendix

The following definitions and calculations are derived from guidelines for analyzing Developmental Studies for the purposes of accountability, from the Director of Research and Planning for the Colorado Community College and Occupational Education System. They relate to tables 1, 2, and 3 in this appendix (E).

Student Tracking Groups

Developmental - students who successfully completed developmental studies course work and subsequently enrolled in college level disciplines.

Waiver - students who were assessed as needing developmental studies course work but who signed a waiver allowing them to take college level courses.

Tested - students who were not exempted but who were assessed and qualified to perform college level course work.

Exempt- students who were exempted from assessment testing based on pre-established criteria (i.e., acceptable ACT/SAT scores, completed prior degree).

No information - students who failed to undergo assessment testing and as a result no assessment scores were on file.

Explanation of Calculations

Percent successfully completing - the number of students completing the college level course with a final grade of A, B, C, or P divided by the total number of students who took the course (A, B, C, P, plus D, F, W, U) times 100.

Average GPA - computed on all students who received a grade (A-F) in the course.

Total - total number of students enrolled in college-level course work for the particular discipline being reported.

Reading

At the beginning and end of Fall 1993, a 55-item self-inventory of reading strategies and skills in the students' textbook (*Fundamentals of College Reading*, by Lee Vogel) was administered to students in all REA 090 classes (see inventory instrument on the following pages). Qualitative ratings ("Almost always," "Sometimes," "Occasionally," and "Never") were converted to numerical values (1 - 4 respectively). Paired t-tests were conducted on the 55 pre and post items. There were statistically significant (alpha <= .05) increases in students' perceptions of their use of reading skills on 45 of the 55 items. Not surprisingly, the remaining 10 items (12, 13, 39, 42, 43, 44, 45, 46, 48, and 53) suggest that many students need to continue to develop skills in critical reading (including using the dictionary when appropriate), reading/studying for understanding, relating information to prior learning, and organizing knowledge; these skills are not taught or are only introduced in REA 090. Furthermore, this pattern of weaknesses is typical of low-achievers, who view learning as a fairly passive process of rote memorization rather than active construction of meaning. However, the change in students' self-reported practices is promising, given published research showing that changing study strategies typically requires months or years of extensive practice. An end-of-term survey indicated that students were very satisfied with REA 095 (mean = 9.47 on a 10-point Likert scale).

See also Pilot Study 2, in the Developmental Studies English section later in this Appendix.

B Final Evaluation

How satisfied are you with this Reading class?

unsatisified 1 2 3 4 5 6 7 8 9 10 very satisfied

Final Evaluation

	Almost always	Sometimes	Occasionally	Never
1. When I read, I am actively searching for meaning.				
2. My goal is to understand the ideas when I read, not just to pronounce the words.				
3. I ask questions as I read; I actively look for answers.				
4. Even when authors don't say things directly, I can figure out what they mean.				
5. I get very involved when I read; I take notes, make diagrams, talk about the ideas, etc.				
6. I read differently depending on whether I am reading for work or for school or whether I am reading for fun.				
7. I bring knowledge and/or experience to my reading.				
8. I read often. I try to read almost every day.				

	Almost always	Sometimes	Occasionally	Never
9. I use punctuation clues to help me learn new words.				
10. I use the words and ideas around a new word to help me define an unknown word (context clues).				
11. I use parts of an unknown word to help me define it (prefixes, roots, etc.).				
12. I use the dictionary when the context or word parts do not provide the definition of an unknown word.				
13. I know what a dictionary can do and cannot do for me.				
14. I keep reading to see if an unknown word might appear again.				
15. I have a method for remembering new words after I learn the meaning (word cards or another method).				
16. I read for ideas, complete thoughts, rather than for individual and unrelated facts.				
17. I read and understand the author's point.				
18. If my reading doesn't make sense (and I know most of the words), I know what to do.				
19. I know how to find the sentence that gives the author's main point.				
20. I use the topic sentence to identify (1) the topic and (2) the idea that will control the paragraph.				

	Almost always	Sometimes	Occasionally	Never
21. I predict and guess at what I think will be coming as I read.				
22. When I read, I look for the point (main idea) and then look for details that support the point.				
23. I use the author's purpose to make sense of the details.				
24. I can predict what the details will be from the controlling idea.				
25. I understand how details relate to the controlling idea of a paragraph.				
26. I understand how details relate to other details.				
27. I can organize the author's ideas (make an outline showing main point, major details, and minor details).				
28. I read with understanding; I think as I read and can follow the author's ideas.				
29. I recognize authors' methods of development (compare/contrast, cause/effect, sequence, etc.).				
30. I use the topic sentence to predict the author's method of development.				
31. I am alert to special words that signal the author's method of development.				
32. I use the author's method of development to think along with the author and follow the ideas.				

	Almost always	Sometimes	Occasionally	Never
33. I read textbooks differently from how I read magazines, newspapers, or novels.				
34. I can concentrate when I read textbooks; I know how to improve my concentration.				
35. Before I read, I spend several minutes trying to get an idea of what the main topics will be and how they will be organized.				
36. I ask questions while I read. I know what I am looking for.				
37. I carefully study the graphs, tables, charts, and diagrams in a textbook.				
38. I take notes or write in the textbook.				
39. I have specific methods I try when I am having trouble understanding a textbook.				
40. When I want to remember what I read, I make a conscious decision to remember.				
41. I try to remember only four to five facts or ideas at one time.				
42. I work to understand ideas before I try to remember them.				
43. I don't try to remember everything; I select only the most important ideas.				
44. I organize information I want to remember.				

	Almost always	Sometimes	Occasionally	Never
45. I try to "hook" new information to information I already know.				
46. I recite and drill any information I want to remember.				
47. I am aware of the author's purpose; I know when he or she is trying to get me to agree.				
48. I try to read critically. I'm willing to question the truth of what I read.				
49. I know *how* to read critically; I have techniques that allow me to evaluate the truth of what I read.				
50. I read to get the point; I identify the issue and the author's conclusion.				
51. I look for the author's reasons; I check to see if they support the conclusion.				
52. I am alert to the techniques authors use that are "bad reasoning."				
53. I am alert to how facts and opinions are used. I know when to accept and when to reject them.				
54. I am alert to how the author can use emotional language; I do not let the language sway me but evaluate the reasons given.				
55. I will try to use the strategies I have learned in this text.				

Reading 95 Student Self-Report

Dear Reading 95 student:

As part of our yearly Accountability Report, we want to know how helpful the Reading 90/95 class(es) were to prepare you for the classes you are currently taking. Please indicate your responses to the 10 questions below and return this form to the Learning Strategies Center (M-462) before March 15.

We'll have a treat waiting for you!

		Never	Seldom	Occasionally	Often
1.	I actively read textbook material, integrating background knowledge I already have.				
2.	I vary my reading speed to my purpose—I slow down when reading becomes more difficult and speed up reading for fun.				
3.	I decode vocabulary using the strategies of context clues, word parts (prefixes, roots), glossary or dictionary.				
4.	I am able to locate the main ideas in writing.				
5.	I am able to differentiate between major points and minor details.				
6.	I am able to prepare for tests.				
7.	I know why I am in college, and I focus on my goals as needed.				
8.	I use different strategies before reading, during reading and after reading a selection.				
9.	I read critically, noting bias, point of view, purpose, tone and fact/opinion.				
10.	I am able to independently read textbook assignments.				

English

Performance of ENG 095 students was statistically analyzed in several ways with the level of significance established at .05. First, students' course grades were compared to their scores on exit-competency writing essays (which are scored blindly using a primary-trait method in which faculty have been trained) Spring 1994. The course grades statistically validated the exit-writing instrument (a statistical correlation was significant, although the assumptions of a parametric test were violated, but the non parametric Chi-square test also validated the relationship).

Second, grades of ENG 095 Fall 1993 students were compared with their ENG 121 Spring 1994 grades. Sixty-five students received grades in both courses. There was a small, statistically significant correlation ($r = .3197$); including the Spring 1994 ENG 121 students who had taken ENG 095 Spring or Summer 1993 increased the correlation slightly ($.4302$; $n = 85$). (See related comparison in Pilot Study 2, below.) But a t-test for the Fall-Spring group of 65 students indicated that average grades differed significantly ($p < .001$), with students earning almost a full grade lower in ENG 121 than they did in ENG 095:

	ENG 095	ENG 121
average grade	3.14	2.26

The weak relationships between levels of achievement in ENG 095 and ENG 121 may involve several factors, such as inadequate sample size, the greater demands of the types of writing required by the end of ENG 121, motivation, etc.

ENG 095 students' average grades in ENG 121 were also compared with average grades of other ENG 121 students, Spring 1994 (see Table 1). Unfortunately, students who refused to accept placement advice (i.e., their ASSET scores and/or placement writing indicated that they should take ENG 095) were not required to sign waivers to take ENG 121. Thus, it was impossible to consider that factor.

Table 1. Developmental Studies Tracking Analysis: English

Student Group[1]	**N**	**% Successfully Completing**[2]	**Average Grade**[2]
Developmental	66	65.6	2.23
Waiver	N/A	N/A	N/A
Tested	163	81.2	2.52
Exempt	24	75.0	2.46
No Information	176		
Total (C)	429		

* Percentage successfully completing ENG 121 in Spring 1994.

[1]For definition of tracking groups, see page 1 of this appendix (E).

[2]For explanation of calculations, see page 1 of this appendix (E).

Pilot Studies

Pilot Study 1. To increase the validity of the English studies, the data were re-examined to incorporate two additional factors. (See extended discussion pp. 1-2, main report.) First, because the Developmental Studies and transfer English faculty agreed Spring 1992 that a grade of A or B (not C) in ENG 095 indicates adequate preparation for ENG 121, "readiness" was redefined to include only those students. Second, because students may be "unsuccessful" for several reasons, success was redefined in terms of work actually completed in ENG 121. ENG 121 faculty were asked to indicate whether students' work was satisfactory (A, B, C), unsatisfactory (D, F), or unknown (not enough work was submitted to determine average quality). A Chi-square test indicated that students who earn an A or B in ENG 095 are significantly more likely to submit satisfactory work in ENG 121 ($p = .0016$ with continuity correction) and to earn higher grades than students who do not earn an A or B in ENG 095 (see Table 2).

Table 2. Readiness for ENG 121 by Quality of Work Submitted

ENG 095 Grade (Readiness for 121)	Quality of ENG 121 Work*		
	Satisfactory	Unsatisfactory	
A, B (Ready)	mean = 2.818**	mean = .667	
	n = 45 67.2%	n = 7 10.4%	n = 52
C, D, F, W (Not Ready)	mean = 1.778	mean = .750	
	n = 9 13.4%	n = 6 6.2%	n = 15
	n = 54	n = 13	n = 67

* The means do not include 7 Ws in ENG 121.
6 students were dropped because complete data were not available.

** $p = .0016$

This approach seems promising, but interpretations are limited because a Chi-square test is non parametric. To facilitate the use of parametric tests in the future, ENG 121 faculty will be asked to submit actual grade averages on work submitted, rather than nominal data.

See Table 3 for distribution of grades of ENG 095 students in ENG 121 and Figure 1 for a graphic comparison of achievement with "Readiness" defined as a grade of A or B, and as a grade of A, B, or C.

Pilot Study 2. In an attempt to gain more insight into factors potentially related to student performance in Developmental Studies courses and success in college, a second pilot study was also conducted. The population for the study included every new student Fall 1993 whose ASSET placement scores recommended at least one Developmental Studies course (i.e., English and/or reading courses numbered below 100). It was hypothesized that

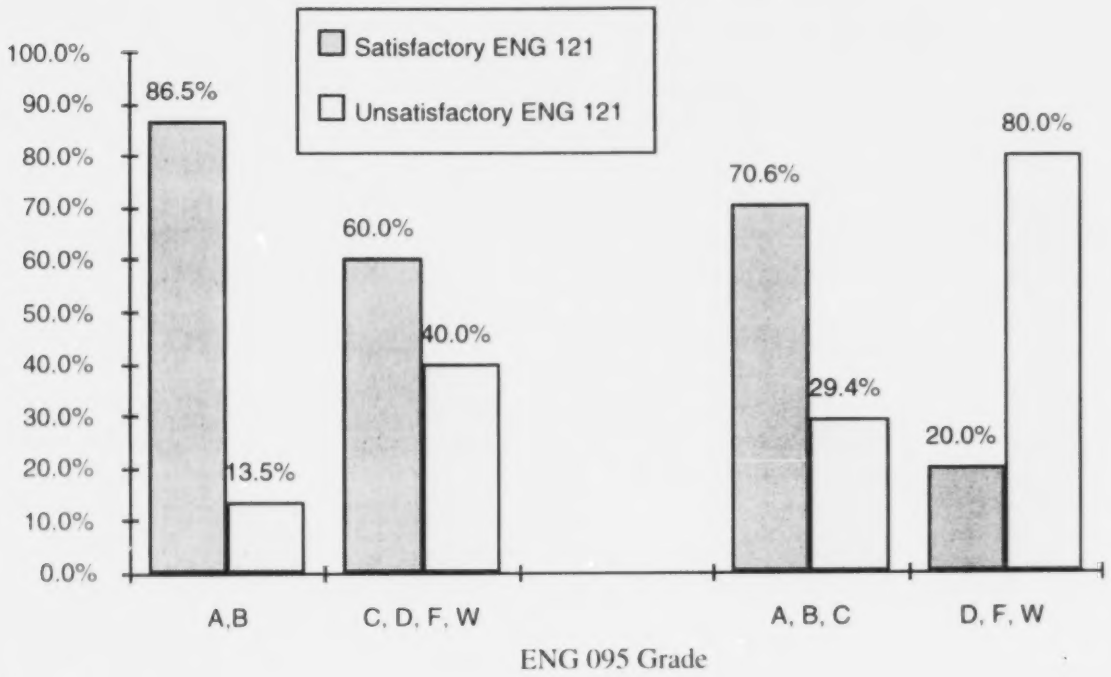
1. A higher percentage of students who took the recommended English course would be successful (grade of A, B, or C) in the English course they took fall semester compared to those who took a higher-level English course.
2. A higher percentage of students who took the recommended course(s) would return Spring 1994 than those who ignored the advice.
3. Of those who returned Spring 1994, students who had taken the recommended Developmental Studies course(s) would have higher grade-point-averages spring semester than those who had not.

There were 215 students in the population.

Table 3. Grades of ENG 095 Students in ENG 121

ENG 095	ENG 121						
	A	B	C	D	F	W	
A	5	9	8	2	1	1	26
B	3	13	4	4	3	2	29
C	0	2	4	3	2	2	13
D	0	0	0	0	0	1	1
F	0	0	1	0	1	1	3
W	0	0	0	1	0	0	1
						Total:	73

Fig. 1. Performance of ENG 095 Students in ENG 121



Results and Discussion

Hypothesis 1 was confirmed; students who took English courses appropriate to their skills succeeded at a higher rate than those who tried to take English courses for which they were not prepared (see Table 4). A few of these students may have been advised to take a higher-level English course based on placement writing.

Table 4. Relationship of Fall English Status and Satisfactory Grade (A, B, C)

Enrolled in ENG course <= one recommended?		Satisfactory Grade Yes	No
Yes	(n = 174)	62.1%	37.9%
No	(n = 24)	66.7%	33.3%

$p < .0001$

Hypothesis 2 was not confirmed for English (see Table 5; several methods of grouping were tried, such as ENG 090 *or* 095 course, or any course at or below the course recommended). Because the numbers were so small for the various patterns, reading status was analyzed in a less discriminate way than English (see Table 6); however, the pattern of results was similar to those in English. Note that barely one third of the students took the recommended Developmental Studies reading course and that many students were advised to take both an English and a reading course. Many of the students who attended both semesters took a Developmental Studies English course one semester and a reading course the other; some took two Developmental Studies courses each semester (e.g., ENG 090, REA 090 Fall semester; ENG 095, REA 095 Spring semester).

Retention rates for Developmental Studies students need to be analyzed in the perspective of the retention rates for other students (e.g., new students who enter with college-level reading and writing skills). And additional demographic data need to be collected and analyzed (e.g., age, gender, hours employed, learning styles, etc.). Finally, since ACC students often attend college intermittently for financial or other reasons, intermittent retention patterns must be examined. Eleven percent of the Spring non-returnees subsequently re-enrolled; three of the students were re-admitted Summer 1994; five were re-admitted Fall 1994.

Table 5. Relationship of Fall English Status to Retention

Fall English Status	N	Retained Spring 1994 N	% *
Total	215	144	67.0
Took recommended English Course			
ENG 090 or 095	135	89	65.9
ENG 121	40	28	70.0
Ignored recommendation **			
took ENG 121 although 090 or 095 advised***	23	17	73.9
took no ENG, although 090 or 095 advised	14	7	50.0
took no ENG, although 121 advised	3	3	100.0

* There were no statistically significant differences among groups, even when groups <10 were dropped from the comparison.

** Some of these students took a Developmental Studies reading course instead.

*** Some of these students may have been advised to take ENG 121 based on placement writing.

Table 6. Relationship of Fall Reading Status to Retention

Fall Developmental Reading Status	N	Retained Spring 1994 N	%
Total	160	107	66.9
Took recommended Course (090 or 095)	55	36	65.5
Ignored recommendation*	105	71	67.6

* Many of these students took a recommended Developmental Studies English course.

Hypothesis 3 was not confirmed; students who had taken the recommended Developmental Studies courses in the fall did not have statistically significant higher GPAs in the spring than those of students who did not take the recommended courses. Any of several factors individually or jointly might have influenced spring achievement; however, the small size of the population made it impossible to conduct a meaningful regression analysis. But preliminary analysis did not identify credit load to be a significant factor. Other factors of immediate interest include skills required in courses taken in the spring (reading, writing, and study skills), students' skills, hours employed, hours of study. For example, some courses require little reading and/or writing; some students took primarily Developmental Studies courses; some took a combination of Developmental Studies and college-level courses; some took only college-level courses; some work full-time and take a full load; some did not succeed in their first-semester Developmental Studies course(s) but enrolled in college-level English the second semester.

Other analyses found that Fall GPAs for the population were significantly correlated with gender (see Table 7). Factors of potential interest include gender differences in learning styles, confidence, social cues and/or motivation. These imply the need for gender-sensitive instructional and/or advising strategies. Also of interest are potential learning disabilities, which may require additional instructional support, learning strategies, etc.

Table 7. Relationship of Gender to GPA and Retention

	Fall		Spring		
	N	GPA	N	Retention	GPA
Total	215	2.024	144	67.0%	2.052
Gender					
Males	105	1.750*	65	61.9%	1.996
Females	110	2.247*	79	71.8%	2.006

* p = .006

There was also a significant relationship between marital status and GPA each semester (see Table 8). The interaction of marital status with other factors should be investigated in future studies; of particular interest are age, gender, employment status, credits enrolled, and enrollment in recommended Developmental Studies courses. Such information may have bearing on identifying high-risk students and on advising strategies.

Table 8. Relationship of Marital Status to GPA and Retention

	Fall		Spring		
	N	GPA	N	Retention	GPA
Total	215	2.024	144	67.0%	2.052
Single	189 (87.9%)	1.926*	124	65.6%	1.920**
Married	19 (8.8%)	2.781*	14	73.7%	2.835**
unknown	(7) (3.3%)		(6)		

* p = .010 ** p = .017

There was a small but significant correlation between students' grades in ENG 095 and ENG 121 Spring 1994 (n = 37; r = .3906; p < .05; see related comparisons for all ENG 095 students Spring, Summer and Fall 1993 at the beginning of the Developmental Studies English section).

Following is a list of some of the other data obtained in the study:

1. Recommended English course

090	76	35.3%
095	92	42.8%
121	44	20.5%
n/a	3	1.4%

2. Recommended Reading course

090	59	27.4%
095	100	46.5%
112	53	24.7%
n/a	3	1.4%

3. Correlation: English and Reading placement scores

.237 ($p < .01$)

Limitations of the ASSET tests. One concern with this pilot study, as with other research on Developmental Studies reading and writing courses at ACC, is the validity of the ASSET placement tests. Because they are power (speed) tests, they may not be validly measuring skills as much as speed in answering correctly (this has been an on-going concern among faculty). Because some students take tests slowly or read slowly, they answer relatively few questions—yet they may get all or most answers correct. Other students may have little or no experience taking standardized tests. Since speed per se is not a critical element in learning, these students may not belong in the population being studied.

ACC is in the process of converting to the ACCUPLACER test program, which uses non-power computerized tests. Placement cut-off scores will be established in 1994-95. It is hoped that this new placement program will be a more effective and efficient advising tool than the ASSET tests seem to have been.

Mathematics

Students were **tracked from** MAT 060 (Pre-Algebra) taken during the Fall 1993 semester **into** MAT 114 (Beginning Algebra) taken during the Spring 1994 semester.

Table 9. Developmental Studies Tracking Analysis: Mathematics

Student Group[1]	N	% Successfully Completing[2]	Average Grade[2]
Developmental	37	78.0 (62.5)*	2.27
Waiver	N/A	N/A	N/A
Tested	146	69.0 (57.9)*	2.50
Exempt	26	69.0 (72.4)*	2.50
No Information	95		
Total (C)	304		

* Percentage successfully completing MAT 114 in Spring 1994.

Results

Students who successfully completed MAT 060 (Pre-Algebra) subsequently performed at about the same level in MAT 114 (Beginning Algebra) as students who tested into MAT 114 and students who were exempted by their ACT/SAT scores. Although the developmental studies students performed lower than the other two groups, they experienced a significantly higher completion rate than students who tested into MAT 114 or who were exempted.

However, the results are very difficult to interpret for several reasons. Waivers were not obtained from students advised to take lower-level courses; group sizes varied significantly; and the students can enroll in courses without obtaining placement advice or by ignoring the advice.

[1]For definition of tracking groups, see page 1 of this appendix (E).

[2]For explanation of calculations, see page 1 of this appendix (E).

General Comprehensive Education

GED students at Arapahoe Community College are varied in age, abilities, and motivation. Some high school students take the test because they have not kept up with their classes, have been expelled from high school, or are eager to begin college. Others have been ordered by the court to obtain a GED. Some are women who need a GED to join the work force. Others are upgrading their skills in order to develop their job potentials. Although no quantitative data have been collected, it is estimated that in 1992-94, approximately 50% were 16-20 years old; 25%, 21-30; and 25%, 31-55.

ACC offers a free pretest for people planning to take the official GED test. Pretesting is a valuable outreach service for the community, as shown by the large number tested 1993/1994. Those who pass are sent to the testing center for the official test; those who fail are advised to take the GED preparation class. The GED class consists of individualized tutoring; the class is open-entry and open-exit; students work at their own pace. The following table summarizes the activity for the past year:

Table 10. Analysis of GED

Category	Number (%) 1992-93		1993-94	
Pretested	414		402	
Passed the official GED test without enrolling	90	(21.7%)	116	(28.9%)
Pretested people in need of GED classes	324	(78.3%)	286	(71.1%)
Pretested people who enrolled in GED classes	62	(19.1%)	45	(15.7%)
GED students who passed official GED test	25	(40.3%)	20	(44.4%)
GED students who failed official test	1	(1.6%)	3	(6.7%)
GED students who withdrew	3	(4.8%)	0	
GED students who stopped attending or were dropped for unsatisfactory attendance	19	(30.6%)	7	(15.6%)
GED students in progress at end of year	14	(22.6%)	15	(30.0%)
Pre-tested students who passed the official GED test and enrolled at ACC as regular students	20	(4.8%)		

Some students drop out and return within a few months; reasons include, for example, motivational problems, and pregnancy/birth. Some students drop with no notice. Students who are in progress continuously may attend for two semesters under one registration.

Study Skills

At the beginning of Fall 1993, the Study Skills Inventory (see next page), which is marketed by The American College Testing Program, was administered to all students in STS 040 and 050 sections taught by Pauletta Krum. At the end of the semester, the inventory was again administered to students still enrolled. The results were compiled in tabular format under each respective area (see Table 11).

Table 11. Comparison of Pre- and Post-test Percentiles in STS 040 and 050

Area	Pretest	Posttest	(gain)	Probability
1.Managing Time and Environment	54.7895	77.4211	(22.63)	.000*
2.Reading Textbooks	56.3947	84.5000	(28.11)	.000*
3.Taking Class Notes	44.4475	72.9211	(28.47)	.000*
4.Using Information Resources	46.0789	74.7895	(28.71)	.000*
5.Preparing For and Taking Examinations	43.9737	79.3684	(35.39)	.000*

*alpha = .05 n = 38

Paired t-tests with a two-tailed alpha level of .05 were conducted; all posttest gains were significant. Students' inventories of their end-of-term skills were above the 72nd percentile in all areas, with the greatest increase in preparing and taking examinations.

ACT

Study Skills Inventory
Self-Scoring Answer Folder

College Edition

DIRECTIONS: The Study Skills Inventory consists of 85 statements about the ways that you study. There are five groups of statements—Managing Time and Environment, Reading Textbooks, Taking Class Notes, Using Information Resources, and Preparing for and Taking Examinations.

When you are told to begin work, open this answer folder and read each statement quickly but carefully. Using the options below, choose the answer that comes closest to describing your **actual** study activities, not what you think you **should** do. The possible responses are:

A = Not Often

B = Sometimes

C = Frequently

D = Almost Always

To mark an answer, circle the letter—A, B, C, or D—of the response you've chosen, for example:

A B (C) D

To change an answer, do not erase. Instead, just make an X through your first answer and then circle the letter of your new answer choice, for example:

A (B) ⊗ D

You may look back at the instructions above as often as you need to.

DO NOT TURN THE PAGE UNTIL YOU ARE TOLD TO DO SO.

STUDY POWER

© 1988 by The American College Testing Program. All rights reserved.

Study Power is based in part on the Effective Study Materials series originated and formerly published by Dr. William F. Brown, who consulted with ACT on the development of Study Power.

Name: _____

Today's Date: _____

ACT

Study Skills Inventory

College Edition

A = Not Often

B = Sometimes

C = Frequently

D = Almost Always

MANAGING TIME AND ENVIRONMENT

A B C D 1. I follow a specific study schedule.

A B C D 2. I review my class notes on a regular basis.

A B C D 3. I keep up with my assignments.

A B C D 4. I find it hard to predict which subjects will be most difficult for me.

A B C D 5. When I have free time between classes, I take a break or socialize with friends.

A B C D 6. My responsibilities outside of class leave me too little time for studying.

A B C D 7. I keep a list or calendar showing scheduled examinations, papers, and other major assignments.

A B C D 8. I start working on a long-term project well before its due date.

A B C D 9. I turn in papers or reports late.

A B C D 10. I schedule specific times to study for each of my courses.

A B C D 11. I rank my personal and study needs in order of importance and budget my time on this basis.

A B C D 12. My usual study areas are free from distractions (noise, interruptions, etc.).

A B C D 13. I keep my notes and class handouts well organized.

A B C D 14. I try to find something of interest in each of my classes.

A B C D 15. I find that my mind wanders when I am trying to study.

A B C D 16. It is hard for me to see any connection between my college courses and my future personal and professional life.

A B C D 17. I find excuses to postpone studying.

READING TEXTBOOKS

A B C D 18. I use a textbook's table of contents to help me understand the book's organizational structure.

A B C D 19. When I start reading a new textbook, I skip the introductory material.

A B C D 20. When I have a long reading assignment, I use the text's subsections as short-term goal points.

A B C D 21. I answer review questions when they are provided in my textbooks.

A B C D 22. When I have a long reading assignment, I read only the chapter summaries.

A B C D 23. I read textbook assignments without first skimming all of the headings in the section.

A B C D 24. I have trouble identifying topic sentences in my textbook reading.

A B C D 25. I review my reading assignments as soon after class as I can.

A B C D 26. When reading new material, I attempt to relate it to what I have already learned.

A B C D 27. When I study a textbook chapter, I turn the section headings into questions and search for the answers as I read.

A B C D 28. When I finish a reading assignment, I can recall only a few facts.

A B C D 29. I underline or highlight important ideas as I encounter them in my textbook reading.

A B C D 30. I read my textbook assignments at a constant speed regardless of the subject area or the difficulty of the material.

A B C D 31. When reading a textbook, I find it hard to pick out the main ideas.

A B C D 32. In reading a textbook assignment, I also study the illustrative materials (graphs, diagrams, tables, etc.).

A B C D 33. If a topic in my reading seems unclear, I make a special effort to understand it.

A B C D 34. I use an organized strategy, such as SQ3R, for reading my textbooks.

TAKING CLASS NOTES

A B C D 35. I complete all assigned readings before attending class.

A B C D 36. If my instructor has provided a course outline, I review it frequently to determine how the current class material fits into the course as a whole.

A B C D 37. I arrive late for class.

A B C D 38 When I miss class, I copy the notes from another student.

A B C D 39 I forget to bring necessary note taking materials to class such as the correct notebook, pencils or pens, etc.

A B C D 40 I take notes in all of my courses.

A B C D 41 When taking notes, I leave enough room on each page to later write in clarifications or additional material.

A B C D 42 My class notes are too disorganized to be useful when I am studying for examinations.

A B C D 43 My mind tends to wander during classroom lectures.

A B C D 44 My class notes are helpful in predicting what material an instructor is likely to include on an examination.

A B C D 45 When taking class notes, I write down important facts without thinking about their relationship to other ideas.

A B C D 46 I use abbreviations when taking class notes.

A B C D 47 I use a procedure such as underlining, highlighting, or bracketing to set off important points in my class notes.

A B C D 48 After I take notes in a class, I don't look at them again until I'm ready to study for an exam.

A B C D 49 I review my notes within a day or two after a class session.

A B C D 50 I add my own comments to my class notes to remind myself of important points.

A B C D 51 I ask the instructor for help if something in my class notes is unclear.

USING INFORMATION RESOURCES

A B C D 52 I have trouble finding my way around the library stacks.

A B C D 53 I'm not sure how to use the library's card catalog or computerized catalog.

A B C D 54 When I locate a book about a particular topic in the library, I look through books shelved nearby to see whether they provide additional information on the topic.

A B C D 55 When using information resources, I forget to write down all of the identifying information I'll need for my reference list (e.g., author, publication date, etc.).

A B C D 56 I have trouble using periodicals indexes to help me identify magazine or journal articles on specific topics.

A B C D 57 I can identify the professional journals most likely to have articles on topics of interest to me.

A B C D 58 I have trouble telling the difference between general interest and scholarly periodicals.

A B C D 59 When writing a research paper, I limit my information gathering to articles found in one or more good encyclopedias.

A B C D 60 I avoid using non-print information resources (microfiche, microfilm, etc.).

A B C D 61 I begin planning my research papers within a few days after they are assigned.

A B C D 62 When reading a book or journal article, I separate fact from opinion.

A B C D 63 When researching a paper, I use several different kinds of information resources.

A B C D 64 I check with my instructor soon after a paper is assigned to be sure that the topic I've chosen is appropriate.

A B C D 65 When I've identified a book or journal article that will help me prepare a research paper, I check its reference list or bibliography for other possible resources.

A B C D 66 I can identify the date of publication and the publisher of printed materials.

A B C D 67 I have difficulty organizing the information that I have gathered to write a research paper.

A B C D 68 I proofread the final draft of a research paper before turning it in to my instructor.

PREPARING FOR AND TAKING EXAMINATIONS

A B C D 69 I keep up with the day-to-day assignments in my courses.

A B C D 70 I begin reviewing for an examination on the night before it will be given.

A B C D 71 I study for exams without knowing what kinds of questions (multiple-choice, essay, true-false, etc.) will be included.

A B C D 72 My predictions about what will be covered on exams aren't very accurate.

A B C D 73 When they are available, I review previous examinations in a course as part of my exam preparation.

A B C D 74 I study for examinations in a quiet place where I can avoid distractions.

A B C D 75 I feel confident of my ability to demonstrate what I know on an exam.

A B C D 76 After I get an exam paper back, I find out the correct answers to questions I missed.

A B C D 77 When preparing for a problem-solving test, I practice applying key theorems, formulas, and equations to sample questions of the type I expect to see on the examination.

A B C D 78 When studying for an essay exam, I make up questions of my own, then write out answers to the questions.

A B C D 79 I lose points on examinations because I misread the directions or make other careless mistakes.

A B C D 80 Before starting an exam, I look it over to plan how much time to spend on certain sections or questions.

A B C D 81 I check over my examination paper before handing it in.

A B C D 82 On a multiple-choice question, I read all response options before choosing my answer.

A B C D 83 Before I start working on the items on a problem solving test, I write down some of the important formulas and facts that I might need.

A B C D 84 When taking an essay exam, I make notes or a brief outline before answering each question.

A B C D 85 I lose points on essay examinations because I stray from the main topics in my responses.

Scoring Worksheet

MANAGING TIME AND ENVIRONMENT

Number of 4-point answers _____ x 4 = _____ Points

Number of 3-point answers _____ x 3 = _____ Points

Number of 2-point answers _____ x 2 = _____ Points

Number of 1-point answers _____ x 1 = _____ Points

Your total score on Managing Time and Environment = ☐

USING INFORMATION RESOURCES

Number of 4-point answers _____ x 4 = _____ Points

Number of 3-point answers _____ x 3 = _____ Points

Number of 2-point answers _____ x 2 = _____ Points

Number of 1-point answers _____ x 1 = _____ Points

Your total score on Using Information Resources = ☐

READING TEXTBOOKS

Number of 4-point answers _____ x 4 = _____ Points

Number of 3-point answers _____ x 3 = _____ Points

Number of 2-point answers _____ x 2 = _____ Points

Number of 1-point answers _____ x 1 = _____ Points

Your total score on Reading Textbooks = ☐

PREPARING FOR AND TAKING EXAMINATIONS

Number of 4-point answers _____ x 4 = _____ Points

Number of 3-point answers _____ x 3 = _____ Points

Number of 2-point answers _____ x 2 = _____ Points

Number of 1-point answers _____ x 1 = _____ Points

Your total score on Preparing for and Taking Examinations = ☐

TAKING CLASS NOTES

Number of 4-point answers _____ x 4 = _____ Points

Number of 3-point answers _____ x 3 = _____ Points

Number of 2-point answers _____ x 2 = _____ Points

Number of 1-point answers _____ x 1 = _____ Points

Your total score on Taking Class Notes = ☐

ACT

P.O. BOX 168
IOWA CITY, IOWA 52243

If you are not using a calculator, you might find it easier to add your area scores if you first recopy them.

To do this, carefully transfer the numbers from the boxes above to the corresponding spaces below. Then add these numbers to get your Inventory Total.

Managing Time and Environment = _____

Reading Textbooks = _____

Taking Class Notes = _____

Using Information Resources = _____

Preparing for and Taking Examinations = _____

INVENTORY TOTAL = ☐

Your instructor or counselor will explain how to interpret your Study Skills Inventory scores.

Student Ethnicity Enrollment Comparisons
Arapahoe Community College
1992-94

Table 1. Enrollment Comparisons: Fall 1992 to Fall 1993

Ethnicity	Fall 1992 N	Fall 1992 %	Fall 1993 N	Fall 1993 %	Year-to-Year % Change
American Indian	104	1.4	95	1.0	- 8.7
Asian	140	1.4	169	1.5	+ 20.7
Black	96	1.3	101	1.4	+ 5.2
Hispanic	439	5.7	428	5.2	- 2.1
White	6,412	83.9	6,389	82.4	- 3.6
Unknown	455	6.0	431	5.4	+ 5.3
Total	7,646	100	7,613	100	- .4

Table 2. Enrollment Comparisons: Spring 1993 to Spring 1994

Ethnicity	Spring 1993 N	Spring 1993 %	Spring 1994 N	Spring 1994 %	Year-to-Year Change
American Indian	92	1.2	101	1.3	+ 9.8
Asian	131	1.7	149	2.0	+ 13.7
Black	91	1.2	92	1.2	+ 1.1
Hispanic	424	5.7	418	5.6	- 1.4
White	6,236	83.2	6,294	83.6	- .9
Unknown	520	6.9	476	6.3	- .8
Total	7,494	100	7,530	100	+ .4

NOTE: Student ethnicity figures are self-reported. Year-to-year changes in percentages may not reflect the actual diversity of students on campus.

Table 3. Enrollment, Graduation and Service Area Ethnicity Comparisons

Ethnicity	1993-1994 % Avg. Enrollment	1993-1994 % Graduates*	1990 % Service Area
American Indian	1.3		0.5
Asian	1.6		1.5
Black	1.2		1.5
Hispanic	5.7		4.4
White	83.4		91.0
Unknown	3.5		1.1
Total	100		100

Source: CCHE SURDS Degree Granted Files

* Not available at time of publication

NOTE: Service area percentages calculated from 1990 Census Information.

Competency-based Syllabi

For many years, ACC has used a standard format for syllabi, including student and course goals, course outline and/or major course topics, etc. During the past year, however, occupational-vocational programs began a multi-year conversion of all of their syllabi to a competency-based format. The format is the same for all courses. Following is an example of one of these conversions: first, the Departmental competency-based syllabus for LAW 201 (Civil Litigation), then an individual syllabus that it replaces. Within the parameters defined in the competency code and evaluation code (pages 2 and 3 of the Departmental syllabus), individual instructors identify grading criteria, project and/or papers, number of examinations, etc.

Arapahoe Community College
Competency Based Syllabus

Course Number Identifier	Course Title	Credits
LAW201	Civil Litigation	3

HOURS	Lecture/Discussion 45	Occupational Lab -	Academic Lab -	Coop/Intern/Clinical -

Course Description
Litigation introduces an intensive study of the legal process, including the Federal and Colorado Rules of Civil Procedure. Emphasis is placed upon the functions and duties of the legal assistant in the litigation process, which includes drafting of pleadings, preparation of motions, discovery and pretrial data certificates, as well as trial notebooks.

Prerequisite(s)

Corequisite(s)

Textbook(s) Title, Author, Publisher and ISBN Number
Sandra Pfaff, Civil Litigation and Trial Preparation: A Desk ReferenceColorado Court Rules, 1994

Required Materials
Above text and any materials distributed in class.

Effective Starting Date: SEMESTER: **Fall** YEAR **1994**

Students who find that they are unable to continue a class should complete a Withdrawal form in the Admissions and Records office. All students are encouraged to read the academic requirements in the College Catalog.

Business and Professional Services Division Room A116a Phone 797-5873

After successful completion of this course the student should be able to:			
No.	**Competency**	**Comp Code**	**Eval Code**
1.00	Identify and define the three dispute resolution methods: Civil litigation, arbitration, and mediation	S, G	W
2.00	Identify and describe the various courts in the Colorado state and federal systems	S, G	W
3.00	Apply subject matter jurisdiction rules for Colorado state and federal courts	S, G	W, A
4.00	Apply rules of personal jurisdiction for Colorado state and federal courts	S, G	W, A
5.00	Apply rules of venue for Colorado state and federal courts	S, G	W, A
6.00	Draft a complaint with a breach of contract claim	S	A
7.00	Draft an answer to a breach of contract complaint	S	A
8.00	Identify and apply the rules regarding personal service of the defendant	S, G	W
9.00	Identify and apply the rules regarding computation of time and deadlines	S, G	w
10.00	Draft a motion for extension of time	S	A
11.00	Identify the process to set a case for trial or a matter for hearing	S	W
12.00	Draft a motion for default judgment	S	A
13.00	Identify and describe the procedures for replevin and injunctions	S	W
14.00	Identify and describe the procedures to amend pleadings, join claims, join parties, separate or consolidate cases, intervene in actions, substitute a party, bring a counterclaim and a cross claim	S, G	W
15.00	Identify and describe methods of discovery and potential objections to discovery requests	S, G	W
16.00	Draft interrogatories and request for production of documents	S	A
17.00	Identify and describe the rules regarding depositions	S	W

Competency Code:
B = Basic Skill
G = General Occupational Skill
S = Specific Occupational Skill

Evaluation Code:
A = Authentic
W = Written

After successful completion of this course the student should be able to:

No	Competency.	Comp. Code	Eval. Code
18.00	Draft a deposition summary	S	A
19.00	Identify and describe the motions in the discovery process	S, G	W
20.00	Identify and describe the differences in the federal discovery process and the Colorado discovery process	S, G	W
21.00	Identify the rules regarding summary judgment	S	W
22.00	Identify and describe the rules regarding a disclosure certificate in Colorado state court and a pre-trial order in federal court	S	W
23.00	Identify describe the available post-judgment motions	S	W
24.00	Identify and describe the procedures to collect a judgment, including the examination of a judgment debtor's assets, the garnishment process, obtaining a judgment lien and filing a foreign judgment	S	W
25.00	Identify, in general, the basic steps necessary to appeal a district court judgment	S	W

Competency Code:
B = Basic Skill
G = General Occupational Skill
S = Specific Occupational Skill

Evaluation Code:
A = Authentic
W = Written

LAW201

Grading
Required Projects and/or Papers
Number of Examinations
Make-up Policy
Examination Retake Policy
Attendance Policy

Instructor's Name	**Instructor's Phone**
Instructor's Office Hours:	

SYLLABUS

COURSE NUMBER:	TITLE:	CREDITS:
LAW 201	**Civil Litigation**	**3 semester hours**

CATALOGUE DESCRIPTION: (including prerequisites/corequisites, and clock hours)

Civil Litigation introduces an intensive study of the legal process, including the Federal and Colorado Rules of Civil Procedure. Emphasis is placed upon the functions and duties of the legal assistant in the litigation process, which includes drafting of pleadings, preparation of motions, discovery and pretrial data certificates, as well as trial notebooks.

PREREQUISITES: None. However, completion of LAW 115 and/or LAW 116 is recommended.
CLOCK HOURS: 45

TEXT(S):

Sandra Pfaff, Civil Litigation and Trial Preparation: A Desk Reference

Colorado Court Rules, 1993

REQUIRED COURSE MATERIAL(S):

Above texts and any materials distributed in class.

STUDENT GOALS:

1. To acquire an understanding of the various steps in the litigation process.
2. To acquire a basic understanding of the rules of civil procedure, both state and federal, and their application to the litigation process.
3. To acquire the ability to draft pleadings, motions, and discovery documents.

COURSE GOALS:

1. To provide an understanding of the litigation process from initial interviewing of client to trial and appeal.
2. To acquaint the student with the necessary pleadings and Rules of Civil Procedure, both state and federal.
3. To familiarize the students with the drafting of various pleadings, motions and discovery documents.

COURSE OUTLINE AND/OR MAJOR COURSE TOPICS:

I. Principles of Litigation
II. Causes of Action, Remedies and Defenses
III. Jurisdiction
IV. Complaint, Answer, Pleadings
V. Gathering Evidence
VI. Discovery
VII. Trial Preparation
VIII. Rules of Evidence
IX. Judgments
X. Appeals

Continued on reverse...

Grading Criteria:

Midterm = 30%
Assignments = 35%
Final = 35%
Attendance and class participation will be considered.

90 - 100 = A
80 - 89 = B
70 - 79 = C
60 - 69 = D
Below 60 = NC

NOTE: Check the catalogue for the policy regarding student's withdrawal from class. The instructor cannot withdraw a student.

Students should talk directly with the instructor about any concerns, i.e., grading, course materials, or special needs. It is the student's responsibility to contact the instructor in a timely manner concerning any problems.

INSTRUCTOR'S NAME: Dominic Latorraca

INSTRUCTOR'S OFFICE LOCATION: Room A213

INSTRUCTOR'S OFFICE HOURS: Monday and Friday 9:00 - 10:30 a.m.
Wednesday 2:00 - 4:00 p.m.

INSTRUCTOR'S PHONE: 798-5878

Licensure Exams

Table 1. Results of Licensure Exams: 1993-94

Exam	N Examined	N Passed	% Passed
Colorado Real Estate Commission Exam	**43**	**33**	**77**
Nursing			
February 1994	8	8	100
May 1994	2	2	100
June 1994	29	27	93
July 1994	10	10	100
August	2	2	100
Total	**51**	**49**	**96**
P.O.S.T. Law Enforcement Exam			
Fall 1993	62	60	97
Spring 1994			
Academy A	31	27	86
Academy B	29	24	83
Academy C	21	10	48*
Total	**143**	**121**	**87**
Physical Therapist			
July 1993	12	12	100
November 1993	4	4	100
July 1994	12	12	100
Total	**26**	**26**	**100**

* Academy C spanned two-semesters in order to serve the needs of part-time students who were already employed full-time as police officers. The low pass rate suggests the need to provide review during the second semester for material covered during the first semester. Appropriate changes in the program have been recommended.

Arapahoe Community College
Student Satisfaction Survey

_____
Program/Major

Yes ___ No ___
Employed in Major Field of Study?

We would appreciate your taking a few minutes to complete this survey. Your responses will help us evaluate our programs. Please return the completed survey before graduation to Frank Markley, Arapahoe Community College, P.O. Box 9002, Littleton, Colorado 80160-9002.

I. Instruction - Think about the instructors you have had at ACC, not just the ones whose classes you are in now. Please indicate your rate of agreement with the following statements about your ACC instructors . . .

	strongly agree	somewhat agree	agree	somewhat disagree	strongly disagree
A. Use a variety of teaching skills/instructional strategies which assist in the learning process.	O	O	O	O	O
B. Demonstrate a current knowledge of the subject matter being taught.	O	O	O	O	O
C. Accessible to students enrolled in the course.	O	O	O	O	O
D. Use a fair and equitable student evaluation/assessment system.	O	O	O	O	O
E. Organize materials to maximize class time.	O	O	O	O	O

Comments:

II. Curriculum

F. The objectives and requirements of the AAS degree and/or certificate programs are clearly explained in the catalog.	O	O	O	O	O
G. Courses are appropriately sequenced for student learning.	O	O	O	O	O
H. Prerequisites to courses are appropriately assigned.	O	O	O	O	O
I. The program offers a reasonable number of electives for students.	O	O	O	O	O
J. Career and occupational information is an integral part of the curriculum.	O	O	O	O	O
K. Course outlines (syllabi) clearly present the goals and content of the courses.	O	O	O	O	O
L. Course descriptions in the catalog properly reflect the content of the courses in the program.	O	O	O	O	O
M. There was adequate communication between the instructor, student and cooperative/internship employer concerning training objectives.	O	O	O	O	O

Comments:

III. Institutional Climate

	strongly agree	somewhat agree	agree	somewhat disagree	strongly disagree
A. The division office staff exhibit a professional manner.	O	O	O	O	O
B. The division office staff establish positive rapport with the students.	O	O	O	O	O
C. The division office staff was open and receptive to assisting me in solving my problems.	O	O	O	O	O
D. The faculty exhibit a professional manner.	O	O	O	O	O
E. The faculty establish positive rapport with the students.	O	O	O	O	O
F. The faculty was open and receptive to assisting me in solving my problems.	O	O	O	O	O

Comments:

IV. Advising/Counseling

A. Students have an appropriate opportunity to meet with a program advisor before entering the program.	O	O	O	O	O
B. Counselors are informed of career opportunities in the program area.	O	O	O	O	O

	excellent	above average	average	below average	unsatisfactory
C. Rate the advising and counseling services you received:					
1. personal	O	O	O	O	O
2. course information	O	O	O	O	O
3. scheduling/planning	O	O	O	O	O
4. job/career	O	O	O	O	O
5. English and math placement testing	O	O	O	O	O

Comments:

	none of my classes	some of my classes	most of my classes	all of my classes
V. Facilities/Equipment				
A. Classrooms				
1. The temperature was comfortable and conducive to learning.	O	O	O	O
2. The lighting was adequate.	O	O	O	O
3. The seating was comfortable.	O	O	O	O
4. The seating was suitable for the instructional setting.	O	O	O	O

Comments:

B. Labs				
5. The temperature was comfortable and conducive to learning.	O	O	O	O
6. The labs were of adequate size.	O	O	O	O
7. The equipment is current with industry standards.	O	O	O	O
8. The open lab schedule is adequate for student use.	O	O	O	O
9. The seating was suitable for the instructional setting.	O	O	O	O
10. The seating was comfortable.	O	O	O	O

Comments:

VI. What did you find most helpful in your educational program at ACC?

VII. What did you find least helpful?

VIII. Suggestions for improvement?

Thank you for your assistance.

Table 2. Student Satisfaction Survey: Instructors/Instruction
All Vocational Programs Reported*

Categories	% Satisfied All Programs (N = 59)	Average %
Instruction		**94**
Variety of instructional strategies	93	
Knowledge of subject matter	95	
Accessible to students	93	
Fair assessment	98	
Organized materials	93	
Curriculum		**91**
Objectives/requirements explained in catalog	98	
Courses appropriately sequenced	91	
Prerequisites appropriately assigned	95	
Reasonable number of electives	81	
Career information integral to curriculum	91	
Course content clear	97	
Catalog reflects course content	93	
Adequate communication between instructor, student & employer	85	
Climate		**87**
Division office staff are professional.	95	
Division office staff establish rapport.	77	
Division office staff are open.	86	
Faculty are professional.	93	
Faculty establish rapport.	86	
Faculty are open.	86	
Facilities		**66**
Temperature comfortable in classroom	59	
Classroom lighting adequate	83	
Classroom seating comfortable	53	
Classroom seating suitable	68	
Labs		**71**
Temperature comfortable in labs	67	
Adequate size labs	79	
Equipment meets industry standards	70	
Open lab schedule adequate	82	
Lab seating suitable	70	
Lab seating comfortable	63	

* Data must be interpreted with caution because of low response rate (13%).

Student satisfaction was also surveyed in part during the process of surveying employer satisfaction. See the student-contact form and a summary of the results on the next three pages.

ARAPAHOE COMMUNITY COLLEGE
GRADUATE EMPLOYER SURVEY
EMPLOYER CONTACT PERMISSION REQUEST

Survey # _____ Phone # _____ Program Area _____

Hello, my name is _____. I am calling on behalf of Arapahoe Community College. The purpose of this call is to gain information on the effectiveness of your program area content and curriculum. All information will be kept confidential and you will be identified by a survey number. I would like to ask you a few questions if you have a moment. When did you graduate from Arapahoe Community College? _____

1. Are you currently employed? Yes _____ No _____

   If no, why? _____

   If yes, is the position related to your program area at ACC? Yes _____ No _____

   If no, why? _____

2. What is your job title? _____

3. How long have you been employed in this position? _____

4. On a scale of 1 - 5 with 5 being excellent, 4 good, 3 adequate, 2 poor, & 1 not at all, how well do you feel your program at Arapahoe Community College prepared you for your job? _____

5. On a scale of 1 - 5 with 5 being excellent, 4 good, 3 adequate, 2 poor, & 1 not at all, how would you rate your program at Arapahoe Community College? _____

6. Do you have any suggestions for program change? _____

   _____

   _____

   (If person is not currently employed, stop here.)

May we call your supervisor and ask some questions about how well Arapahoe Community College prepared you for your career? Yes _____ No _____

If yes, please ask:
Who is your immediate supervisor? _____

What is his/her phone number? _____

Thank you for your time.

Summaries of Student Contacts and Student Responses by Program Areas

Table 3a. Health

Program	Degree/Cert.		Interviewed #	%	Unable to Contact*	Other**	Students' Prepared	Ratings*** Satisfied
Medical Office Assistant	6	7	2	15	8	3	4.5	4.5
Medical Lab Tech.	10	0	5	50	4	1	4.2	3.8
Medical Records	28	0	15	54	5	8	3.7	3.7
Registered Nursing	71	0	28	39	23	20	4.5	4.3
P.T. Assistant	17	0	11	65	3	3	4.7	4.9
Total	139		61	44				

* No answer, left message, unavailable
** Refused permission to contact employer, phone disconnected, long distance call
*** 5-point Likert scale, with 5 = Excellent

Table 3b. Business/Professional Services

Program	Degree/Cert.		Interviewed #	%	Unable to Contact*	Other**	Students' Prepared	Rating*** Satisfied
Travel/Tourism	0	34	12	35	14	8	3.92	4.25
Comp. Info. Sys.	19	0	9	47	6	4	3.55	3.72
Business Admin.	13	0	6	50	1	6	4.00	4.66
Police Academy	0	142	12	9	42	22****	3.96	3.88
Criminal Justice	27	0	6	22	10	11	4.50	4.33
Marketing	4	0	1	25	0	3	4.00	4.00
Accounting	11	0	9	82	0	2	3.75	4.33
Legal Assistant	26	17	19	43	18	6	4.35	4.47
Management	15	0	2	13	7	6	3.50	3.50
Hospitality	1	0	1	100	0	0	4.00	4.00
Fire Academy	0	26	4	15	14	8	3.33	3.33
Total	335		81	24				

* No answer, left message, unavailable
** Refused permission to contact employer, phone disconnected, long distance call
*** 5-point Likert scale, with 5 = Excellent
**** No attempt was made to contact 66 graduates.

Table 3c. Design & Technology

Program	Degree/Cert.		Interviewed #	Interviewed %	Unable to Contact*	Other**	Students' Prepared	Ratings*** Satisfied
Architectural Tech.	6	3	4	44	1	4	4.00	4.00
Auto Technology	10	2	7	58	3	2	3.71	4.00
CAD	0	8	2	25	3	3	4.50	4.50
Electronic Tech.	21	0	9	43	6	6	4.00(8)	4.30
Graphic Design	15	1	7	44	3	5	3.40	3.70
Interior Design	29	0	16	55	5	8	4.00	4.20
Mechanical Drafting	7	0	3	43	2	2	3.60	4.00
Total	102		48	47				

* No answer, left message, unavailable
** Refused permission to contact employer, phone disconnected, long distance call
*** 5-point Likert scale, with 5 = Excellent

ARAPAHOE COMMUNITY COLLEGE
GRADUATE EMPLOYER SURVEY—SUMMARY

Survey # _____ Phone # _____ Program Area _____ (See Table 4.) _____

Hello, my name is _____ . I am calling from Arapahoe Community College and would like to ask you if you would participate in our graduate employer survey. The information collected through this survey will help us evaluate how well we are meeting the educational needs of employers. All information will be reported for graduates as a group; information received about individuals will be kept confidential. I would like to ask you to answer a few questions about one of our graduates who is your employee, _____, and has granted us permission to contact you.

What is the employer's job title? Employee's Title?

What is your working relationship with the employee?

How long has the employee been working with you?
Range: 2 - 120 months
Mean: 25.39 months
Mode: 12 months

Is the employee working in a field related to their degree or certificate?
Yes 67 (97%)
No 2 (3%)

Please answer the following questions using a rating scale of 1 through 5, with 5 being "excellent," 4 being "good," 3 being "adequate," 2 being "poor," 1 being "not at all," and 0 if the skill is "not applicable." (If the rating is a 1 or 2, please ask for a response in a comments section at the end of the survey keyed to the question #.)

How well did ACC prepare your employee in the following skills required by the technical specialty? (See Table 5.)

In your opinion, are there any other specific skills that should be included in the program?
(There was no consistent response across programs.)

Are there any specific areas of knowledge or specific skills you would like to identify as areas of strengths or weaknesses in our graduates?
(There was no consistent response across programs.)

Are there any other comments you have that would identify areas that you found most helpful or least helpful in our graduates?
(There were no uniform comments across programs.)

Table 4. Employer Contacts by Program Area

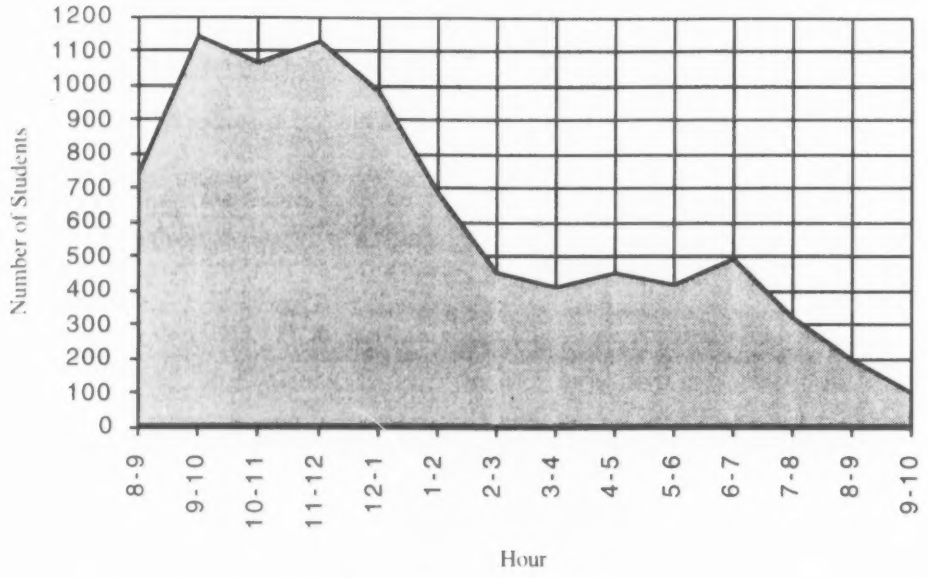
Program	#
ACC	5
ARC	2
AUT	6
BAD	2
CAD	1
CIS	3
CRJ	5
DET	1
ELT	4
GDI	2
IND	4
LAW	8
MAN	1
MOA	2
MRT	6
NUR	7
PTA	7
TRA	3

Table 5. Employer Ratings of Employee Skills*

	Excellent		Good		Adequate		Poor		Not at All		N/A
	#	%	#	%	#	%	#	%	#	%	
Basic Skills											
Reading	39	63	20	32	3	5					7
Writing	30	47	19	30	14	22			1	1	5
Speaking	26	39	25	38	12	18	3	5			3
Listening	35	53	21	32	9	14	1	1			3
Computational	24	42	25	44	8	14					12
General Occupational Skills											
Computer	17	33	21	41	11	22	2	4			18
Reasoning	29	43	27	41	11	16					2
Problem solving	26	39	23	34	16	24	2	3			2
Team/group effectiveness	39	60	15	23	11	17					4
Creativity	26	39	27	40	10	15	3	5	1	1	2
Personal responsibility	47	70	12	18	7	10	1	2			2
Interpersonal	32	48	26	39	8	12	1	1			2
Cultural diversity awareness	27	45	19	32	12	20	1	2	1	1	9
Ability to acquire & apply new knowledge	25	38	29	44	12	18					3
Specific Occupational Skills											
Comprehending the theory	23	35	30	46	12	19					4
Practical applications of the theory	26	39	25	38	15	23					3

* The small number of contacts for specific programs (see Table 4) did not justify itemizing responses by program area.

Fig. 1. Business Computer Lab Usage, Spring 1994



Graduating Student Survey

Please check the appropriate boxes to indicate how satisfied you are with your experience at ACC.

	Never visited/used service	Unaware of service	Very dissatisfied	Dissatisfied	Neutral	Satisfied	Very satisfied
Admissions/Records							
Convenience of admissions process							
Orientation to ACC							
Turn-around time for the following:							
Acceptance letter after application							
Transfer transcript evaluations							
Graduation evaluations							
Requests for transcripts							
Enrollment verifications							
Assistance received from admissions/records staff							
Registration							
Touch-tone registration							
Assistance received from records/registration staff							
Ease of understanding college catalog							
Ease of understanding college schedules							
Availability of courses at times you need them							
Financial Aid/Veterans Office							
Availability of financial aid advisors							
Quality of financial aid information/advising							
Manner of financial aid assistance							
Quality of veterans information/advising							
Manner of veterans assistance							
Counseling Office							
Ease of setting appointments							
Availability of counselors							
Value/quality of counseling for the following:							
Course information							
Semester schedule							
ACC degree/program planning							
Transfer planning							
Job/vocation/career counseling							
Counselors' concern for your individual needs							
Placement testing for English, math, & reading							
Resource Center							
Value/quality of advising for the following:							
Job placement/co-op/internship							
Special needs							
Career library							
Job-hunt groups							
AARP							
Personal/social concerns							
Facilities							
Bookstore							
Cafeteria							
Student lounges							
Library facilities							
Fitness Center facilities							
Classrooms							
Testing Center							
General condition & appearance of campus							
Child Care/Public Safety							
Child Development Center							
Public Safety/campus security							

	Never visited/used service	Unaware of service	Very dissatisfied	Dissatisfied	Neutral	Satisfied	Very satisfied
Student Activities							
Student Government							
Student Newspaper (*Rapp Street Journal*)							
Student Health Insurance							
Student clubs & organizations							
Leisure activities (e.g. movies, comedy, concerts)							
Recreational Services (open swim & open gym)							
Equipment/Labs							
Learning Strategies Center computers (M464)							
Instructional Computing Center (M343)							
Business Computer open labs (A148/150)							
Science labs							
Program-specific labs:							
Lab equipment							
Lab schedule							
Lab support staff							
Instruction/Curriculum/Support							
Overall quality of instruction in							
courses in your major area of study							
courses outside your major							
Faculty concerns for your needs as an individual							
Variety of courses offered in your major area							
Appropriate prerequisites for courses							
Number of electives allowed in degree/program							
Opportunity for internships in your major							
Value/quality of internships in your major							
Assistance from library staff							
Assistance from Learning Strategies Center (M462)							
Helpfulness of Division Office staff							
Convenience of Division Office hours							

Since enrolling at ACC, how satisfied are you with improvement in your	
Level of general knowledge?	
Analytical & problem-solving skills?	
Ability to speak clearly?	
Ability to write clearly?	
Cultural awareness & appreciation?	

Please check your response:	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
ACC prepared me well for my chosen occupation or for continuing my education.					
ACC helped me meet the goals I came here to achieve.					
I would recommend ACC to a friend.					

(Please complete the reverse side too.)

For each item below, please check the SINGLE best answer.
Please remember that your answers are confidential.

Gender

___ Male ___ Female

Enrollment Status

___ Mostly 12 hours or more ___ Mostly 1—6 hours

___ Mostly 7—11 hours

Work Status

___ Mostly 35 hours or more ___ Mostly 20—34 hours

___ Mostly 6—19 hours ___ Mostly not employed

College Attendance

___ Mostly day classes ___ Mostly evening classes

___ Evening & day classes

Location of Classes

___ Mostly at ACC campus ___ Mostly at Triad

___ Mostly at Castle Rock/Parker

How do you describe yourself?

___ African American ___ Hispanic

___ Asian American ___ Caucasian/White

___ Native/Indian American ___ Other

Age

___ Under 19 ___ 30 to 39

___ 19 to 21 ___ 40 to 50

___ 22 to 25 ___ 51 to 61

___ 26 to 29 ___ Over 61

Special Population (Please check all that apply.)

___ Physical or learning disability

___ Economically disadvantaged

___ Academically disadvantaged

___ English as a second language

___ Single parent

___ Yes, but prefer not to disclose

ACC Degree / Certificate type (Please check all that apply.)

___ A.A. Degree ___ A.A.S. Degree

___ A.S. Degree ___ Certificate

___ A.G.S. Degree

Program or Major:

What did you find most helpful in your educational program at ACC?

What did you find least helpful?

Please share any additional comments below:

Thank you for completing this survey.

Because Arapahoe Community College provides a variety of services to a diverse population, many students who enroll during a Fall semester may meet their education goals of career upgrade, personal interest, or skill building. Institutional analysis indicates that many students enroll in courses one semester and transfer to a four-year institution the next or complete short-term career upgrades in one semester.

When full-time degree- and certificate-seeking students are analyzed based on Fall enrollments, 74.4 percent continued their studies into the Spring semester. This is a decrease of 7.3 percentage points over the previous year, and may reflect an increasing trend for students to try to transfer to state public four-year institutions as soon as possible because of the increasing competition to gain admittance to those schools. However, Table 8 suggests that the higher rate of persistence for degree- and certificate-seeking students (81.7%) in the prior year may have been an anomaly.

Although anecdotal information suggests that students fear they will be squeezed out if they delay transfer, Table 7 indicates that students who graduate from ACC have a very high acceptance rate at state public four-year institutions. Furthermore, as tables 6 and 8 indicate, ACC students who earn AA/AS degrees tend to maintain solid "B" average and have a very high rate of completion when they transfer. Publicizing this information more widely on campus may encourage more students to earn degrees before transferring.

The College has not recently surveyed non returning students. Having such data for at least subsets of the population (e.g., new students) would allow the College to determine whether it is meeting student needs and, if not, to examine the effectiveness of relevant instructional/advising strategies.

Retention studies should be refined. Because off-campus sites do not offer full programs of study, overall retention rates are expected to drop as enrollments at off-campus sites increase. Future studies should differentiate off-campus and extension campus retention rates.

Finally, the College has no data with which to compare the success of ACC graduates and ACC non-graduates who transfer to Colorado public four-year institutions. Because having such data would allow the College to examine the effectiveness of important instructional/advising strategies, the College should ask the Colorado Community College and Occupational Education System staff to provide the necessary data.

ACC Term-to-term Retention Rates

Table 1. Semester-to-semester Retention/Persistence Rates for *All* ACC Students: Academic Years 1991-92 to 1993-94

Item	% Retained Fall '91 - Sp '92	% Retained Fall '92 - Sp '93	% Retained Fall '93 - Sp '94
Gender			
Females	58	60	59
Males	55	57	53
Ethnicity			
Black	52	56	47
Hispanic	58	56	54
Native American	57	48	58
Asian American	51	53	53
White	58	59	56
Unknown	44	58	60
Student Employment			
Full-time	54	56	52
Part-time	64	61	59
Not Given	59	61	60
Enrollment			
< 7 credits	45	47	46
7 - 12 credits	66	69	68
> 12 credits	79	84	71
Majors			
Declared	64	58	62
Undeclared	51	59	51
Declared Degree			
AA	72	78	71
AAS	71	73	68
AGS	66	67	67
AS	84	79	67
Certificate	54	65	53
Undeclared	41	40	41
Age			
< 18	48	49	47
18 - 21	63	64	63
22 - 29	58	55	54
30 - 39	58	61	57
40 - 49	54	53	53
50 - 64	44	48	45
> 64	43	58	54
unknown			13
Total Retention	**57**	**59**	**56**

NOTE: Retention/persistence figures do not include students who graduated in the Fall semester and did not return to the institution, because they had completed their programs.

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Table 2. Semester-to-semester Retention/Persistence Rates for
ACC *Part-time* Students:
Academic Year 1993-94

Item	% Retained Fall to Spring Degree/ Certificate	Non Degree/ Non Certificate
Gender		
Females	66	38
Males	56	37
Ethnicity		
Black	46	30
Hispanic	55	36
Native American	49	39
Asian American	69	16
White	64	39
Unknown	58	36
Student Employment		
Full-time	60	35
Part-time	65	41
Not Given	66	40
Enrollment		
< 7 credits	59	35
7 - 11 credit	71	55
Majors		
Declared	61	40
Undeclared	67	37
Declared Degree		
AA	68	n/a
AAS	63	n/a
AGS	69	n/a
AS	65	n/a
Certificate	50	n/a
Age		
< 18	61	36
18 - 19	66	53
20 - 21	62	42
22 - 24	56	34
25 - 29	61	35
30 - 34	65	37
35 - 39	66	36
40 - 49	66	36
50 - 64	58	36
> 64	62	52
unknown	22	0
Total Retention	**62.9**	**37.8**

NOTE: Retention/persistence figures do not include students who graduated in the Fall semester and did not return to the institution, because they had completed their programs.

Table 3. Semester-to-semester Retention/Persistence Rates
for ACC *Full-time* Students by Goal:
Academic Year 1993-94

Item	% Retained Fall to Spring Degree Seeking/ Certificate Seeking	Non Degree Seeking/ Non Certificate Seeking
Gender		
Females	79	61
Males	69	60
Ethnicity		
Black	77	50
Hispanic	77	38
Native American	92	100
Asian American	78	83
White	72	60
Unknown	86	72
Student Employment		
Full-time	69	59
Part-time	75	51
Not Given	76	66
Enrollment		
12 15 credits	77	61
> 15 credits	62	58
Majors		
Declared	76	47
Undeclared	70	64
Declared Degree		
AA	76	n/a
AAS	78	n/a
AGS	63	n/a
AS	70	n/a
Certificate	62	n/a
Age		
< 18	75	88
18 - 19	69	64
20 - 21	73	64
22 - 24	74	59
25 - 29	65	42
30 - 34	83	40
35 - 39	81	54
40 - 49	83	83
50 - 64	92	33
> 64	100	100
unknown	n/a	n/a
Total Retention	**73.1**	**61.0**

NOTE: Retention/persistence figures do not include students who graduated in the Fall semester and did not return to the institution, because they had completed their programs.

Table 4. Semester-to-semester Retention/Persistence Rates
for *Full-time* and *Part-Time* Students:
Summary Comparisons 1991-92 and 1993-94

	% Retention	
	Fall 1991 to Spring 1992	**Fall 1993 to Spring 1994**
All Students	57.9	56.3
Full-time		
Degree/Certificate Seeking	83.0	74.4
Non Degree/Certificate Seeking	63.1	60.8
Part-time		
Degree Seeking	64.9	62.9
Non Degree Seeking	36.6	37.8

NOTE: Information was not analyzed for all categories during the 1992-93 academic year. Figures are based on data in student files as of September 14, 1994.

Results

This analysis indicates that retention rates have remained fairly stable over an extended period of time. Using revised data for the 1992-93 year increased the percentage of retained full-time students seeking degrees/certificates (from 76.8) and decreased the percentage of retained full-time students not seeking degrees/certificates (from 76.8). A smaller but similar pattern occurred for part-time students. These shifts are probably a result of students in the latter group changing their goals. If so, then similar shifts should occur in the 1993-94 population.

A pilot analysis was conducted to examine retention patterns by credits and goal (see Table 4a). It is suggested that the College continue such analyses to identify potential problem areas. Although some graduates continue to take courses at ACC, future analyses should delete fall graduates from the population.

Transfer, Acceptance, GPAs and Completion/Persistence

Table 5. Transfer Rates of ACC Recipients to Colorado Public Four-year Institutions: 1988-89 to 1992-93

Graduation Year	Arapahoe Community College			All Colorado Community Colleges		
	Total Grads	% Transferred 1 yr.	% Transferred 5 yrs.	Total Grads	% Transferred 1 yr.	% Transferred 5 yrs.
1988-1989						
Certificate	177	2.2	5.6	1,744	1.9	4.2
AAS	230	5.7	11.7	2,246	6.2	10.8
AGS	53	26.4	32.1	362	16.0	20.4
AA/AS	93	48.4	58.2	976	47.0	53.6
Total	540	13.9	19.8	5,109	13.2	17.5
1989-1990						
Certificate	212	2.8	6.6	2,076	2.2	5.1
AAS	253	9.5	12.7	2,279	7.6	11.6
AGS	36	16.7	19.5	382	15.2	17.3
AA/AS	83	51.8	57.8	935	45.3	51.5
Total	573	13.8	17.6	5,318	12.9	16.8
1990-1991						
Certificate	199	2.0	3.5	2,092	1.9	3.1
AAS	300	6.7	9.0	2,273	5.9	8.3
AGS	41	9.7	12.1	440	19.0	20.8
AA/AS	112	50.1	54.6	1,113	47.9	52.8
All Grads	641	13.0	15.5	5,613	13.7	16.0
1991-1992						
Certificate	290	2.4	3.8	2,385	2.1	2.9
AAS	316	6.0	7.3	2,369	5.5	6.6
AGS	47	8.6	10.7	486	16.1	16.7
AA/AS	148	47.3	50.7	1,231	47.5	50.8
Total	795	12.6	14.4	6,148	13.2	14.6
1992-1993						
Certificate	265	2.2	2.2	2,507	2.1	2.1
AAS	341	3.2	3.2	2,379	4.3	4.3
AGS	38	31.6	31.6	501	18.4	18.4
AA/AS	139	48.9	48.9	1,352	44.6	44.6
Total	763	12.5	12.5	6,319	13.1	13.1
5-year Average						
Certificate	229	2.3	4.3	2,161	2.0	3.5
AAS	288	6.2	8.8	2,309	5.9	8.3
AGS	43	18.6	21.2	440	17.0	18.7
AA/AS	115	49.3	54.0	1,121	46.5	50.6
Total	662	65.8	16.0	5,701	66.0	15.6

This table displays the number of graduates and the proportion of those graduates who transfer to a Colorado public 4-year post-secondary institution during the same year or any subsequent year following graduation. Thus, 1988-89 graduates are counted as transfers if they transfer in 1988-89 or any year thereafter. "Total" is an unduplicated count, but individuals may be duplicated across degree type. That is, an individual who received both a certificate and AAS degree in the same year is represented in both groups but is included only once in the total. Comparisons across years may not be valid since, for example, 1988-89 graduates have had more opportunities (i.e., more time) to transfer than have 1992-93 graduates.

Source (excluding 5-year averages): CCCOES Division of Research and Planning from CCHE SURDS extract files.

Results

Based on a five-year average, ACC exceeded its criterion of equaling or exceeding the state average transfer rate for AA/AS graduates. (No criteria have been established for other graduates because their programs were not generally designed for transfer.) However, for the past three years, the one-year transfer rate has been below the state average. The latter may reflect a higher percentage of ACC students transferring to non-public state colleges and universities compared to the state average. (In addition, ACC's Honors Institute helps outstanding students transfer to prestigious institutions throughout the country. Other AA/AS graduates transfer on their own initiatives to other institutions which are not included in the target transfer schools.)

Figures from CCHE show very little difference concerning students who transfer within one year and students who transfer within the time frame of the reporting period (three years).

Table 6. Grade-point Averages (GPAs) of ACC Transfer Students to Colorado Public Four-year Institutions: 1988-89 to 1992-93

Graduation Year	Transfer GPA					
	Arapahoe CC			State Average		
	N	2-yr. GPA	4-yr. GPA	N	2-yr. GPA	4-yr. GPA
1988-1989						
Certificate	10	3.0	3.4	73	3.0	3.0
AAS	27	3.2	3.3	242	3.2	2.9
AGS	17	3.1	2.9	74	3.1	2.9
AA/AS	54	3.3	3.2	522	3.2	3.0
Total	107	3.2	3.2	896	3.2	3.0
1989-1990						
Certificate	14	2.8	2.8	105	3.1	3.0
AAS	32	3.3	2.9	260	3.2	2.9
AGS	7	2.8	3.0	66	3.2	3.1
AA/AS	48	3.3	3.2	483	3.2	3.0
Total	101	3.2	3.0	891	3.2	3.0
1990-1991						
Certificate	7	2.9	3.2	64	3.0	2.9
AAS	27	3.2	3.1	189	3.2	2.9
AGS	5	2.9	2.8	92	3.0	2.9
AA/AS	61	3.3	3.2	587	3.2	3.0
Total	99	3.2	3.2	902	3.1	3.0
1991-1992						
Certificate	11	3.1	3.0	70	3.1	2.9
AAS	23	3.0	2.7	158	3.1	2.8
AGS	5	3.1	3.2	81	3.1	2.9
AA/AS	68	3.2	3.0	626	3.2	3.0
Total	114	3.1	3.0	903	3.2	2.9
1992-1993						
Certificate	6	3.0	2.9	52	3.0	2.7
AAS	11	3.1	2.9	101	3.1	2.8
AGS	12	3.0	3.0	92	3.1	2.8
AA/AS	75	3.2	3.3	604	3.3	3.0
Total	95	3.2	3.2	827	3.2	3.0

This table displays the average GPAs of transfer students at the community college and at Colorado 4-year public institutions. "Total" is an unduplicated count but individuals may be duplicated across degree type. That is, an individual who received both a certificate and an AAS degree in the same year is represented in both groups but included only once in the total. The Ns represent the number of individuals who actually transferred. In some cases, due to a small amount of missing data (less than 15%), the GPAs are based on Ns slightly smaller than those reported. Trend comparisons across years are appropriate.

Source: CCCOES Division of Research and Planning from CCHE SURDS extract files.

Results

The average Arapahoe Community College AA/AS transfer student maintains a solid "B" average after transferring to a four-year Colorado public institution. The average GPA of a transfer student upon graduation from ACC is 3.2 on a 4-point scale. As measured by GPA, student academic performance at four-year colleges and universities is not statistically different from their performance at ACC. ACC exceeded its criterion: ACC transfer graduates attending 4-year public Colorado post secondary institution will have cumulative GPAs equal to or exceeding a 3.0 GPA, measured as an average over a five-year period. (No criteria have been established for other graduates because their programs were not generally designed for transfer.)

Acceptance Rates of ACC Students

Since acceptance rates depend on the type of post-secondary institution a student has applied to and the student's intended major, the Accountability Task Force has established no formal goals for acceptance rates of Arapahoe Community College graduate applicants to four-year Colorado public institutions. The following comparison is for information purposes only and is intended to show that almost all Arapahoe Community College students who apply are accepted into Colorado public four-year colleges and universities.

Table 7. Acceptance Rates of ACC Graduate Applicants to Colorado Public Four-year Institutions: 1988-89 to 1992-93

	Arapahoe CC		All State Community Colleges	
Graduation Year	**N**	**% Accepted**	**N**	**% Accepted**
1988-89				
Certificate	22	81.8	156	87.8
AAS	44	86.4	391	91.8
AGS	24	100.0	107	98.1
AA/AS	62	93.5	623	95.4
Total	152	90.8	1,276	93.6
1990-91				
Certificate	30	93.3	199	94.5
AAS	42	92.9	384	92.4
AGS	14	92.9	106	91.5
AA/AS	66	93.9	599	95.5
Total	151	93.4	1,278	94.1
1991-92				
Certificate	18	94.4	189	87.3
AAS	57	87.7	333	90.1
AGS	15	80.0	128	92.2
AA/AS	83	94.0	745	93.7
Total	172	90.7	1,378	91.7
1992-93				
Certificate	42	90.5	225	88.0
AAS	55	89.1	324	90.1
AGS	18	77.8	133	92.5
AA/AS	107	94.4	799	93.5
Total	222	91.0	1,470	92.0
1993-94				
Certificate	39	87.2	215	85.6
AAS	32	93.8	242	88.4
AGS	17	88.2	139	92.1
AA/AS	96	92.7	828	93.5
Total	184	91.3	1,416	91.4
1989-1993				
Certificate	151	89.4	984	88.6
AAS	230	89.6	1,674	90.8
AGS	88	88.6	613	93.1
AA/AS	414	93.7	3,603	94.2
Total	881	91.4	6,818	92.5

Table 7 displays the proportion of community college graduates who applied and were accepted at Colorado public 4-year institutions in particular academic years. Individuals who were accepted may or may not have

actually enrolled. Individuals may be duplicated within categories if they apply to more than one institution. "Total" is an unduplicated count, but individuals may be duplicated across degree type. That is, an individual who received both a certificate and an AAS degree in the same year is represented in both groups but included only once in the total. Trend comparisons across years are appropriate.

Source: CCCOES Division of Research and Planning from CCHE SURDS extract files.

Results

Since 1989, over 90 percent of ACC AA/AS graduates who apply to a four-year Colorado post-secondary institution have been accepted. It can be concluded that receiving a two-year degree at ACC provides students with access to the four-year colleges and universities. (Other graduates have also had a very high acceptance rate, in spite of the fact that their programs were not generally designed for transfer.)

Table 8. Completion/Persistence Rates of Community College Degree Recipients After Transferring to a Colorado Public Four-year Institution: 1988-89 to 1991-92

Year & Degree Type	Arapahoe CC				State Average			
	N	% Complete/ Persist	% 4-yr. Degree	% Enrolled Fall '93	N	% Complete/ Persist	% 4-yr. Degree	% Enrolled Fall '93
1988-89								
Certificate	12	58.4	16.7	41.7	65	47.6	13.8	33.8
AAS	38	44.8	31.6	13.2	256	51.5	23.0	28.5
AGS	9	55.5	44.4	11.1	40	50.0	45.0	5.0
AA/AS	42	83.4	81.0	2.4	474	76.6	68.4	8.2
Total	100	64.0	52.0	12.0	821	65.9	49.8	16.1
1989-90								
Certificate	10	30.0	10.0	20.0	73	37.0	8.2	28.8
AAS	27	40.7	11.1	29.6	242	50.0	22.3	27.7
AGS	17	64.7	47.1	17.6	74	71.6	55.4	16.2
AA/AS	54	72.2	53.7	18.5	522	68.6	53.8	14.8
Total	107	59.8	38.3	21.5	896	61.7	42.6	19.1
1990-91								
Certificate	14	35.7	0	35.7	105	45.7	3.8	41.9
AAS	32	34.4	3.1	31.3	260	57.4	16.2	41.2
AGS	7	71.5	42.9	28.6	66	65.1	51.5	13.6
AA/AS	48	77.1	62.5	14.6	483	72.7	42.7	30.0
Total	101	57.5	33.7	23.8	891	65.2	32.1	33.1
1991-92								
Certificate	7	42.9	0	42.9	64	59.4	9.4	50.0
AAS	27	81.5	14.8	66.7	189	60.9	9.0	51.9
AGS	5	60.0	20.0	40.0	92	66.3	21.7	44.6
AA/AS	61	77.0	26.2	50.8	587	69.9	19.3	50.6
Total	99	74.7	21.2	53.5	902	67.2	17.3	49.9
Average								
Certificate	10.7	41.7	6.7	35.1	76.7	47.4	8.8	38.6
AAS	31.0	50.3	15.1	35.2	236.7	54.9	17.6	37.3
AGS	9.5	62.9	38.6	24.3	68.0	63.2	43.4	19.8
AA/AS	51.2	77.4	55.8	21.6	516.5	71.9	46.0	25.9
Total	102.5	64.0	36.3	27.7	877.5	65.0	35.4	29.5

This table displays completion and persistence rates of community college graduates after transfer to a Colorado public 4-year institution. Completion is defined as earning a 4-year post secondary degree or higher; persistence indicates those who still were enrolled in a 4-year institution in fall 1993. If someone had received a 4-year degree but was still enrolled in a 4-year institution in fall 1993, this individual is counted as a degree recipient instead of enrolled in fall 1993. "Completion/Persistence" and "4-year Degree" statistics do not include individuals who received degrees in summer 1993 or fall 1993 and who were not enrolled in fall 1993. Thus, the figures reported in these two columns represent undercounts (i.e., are conservative). Comparisons across years may not be valid since, for example, 1988 transfers have had more time to complete a 4-year degree than have 1989 transfers.

Source: CCCOES Division of Research and Planning From CCHE SURDS extract files.

Results

The five-year average completion/persistence rate for ACC AA/AS students is 77.4 percent. This figure exceeds the ACC criterion of 75%. In addition, it exceeds the five-year average state transfer rate. Although no criteria have been established for other graduates because their programs were not generally designed for transfer, the high rate for AAS students in 1991 may reflect the increasing number of 2+2 transfer agreements in vocational programs.

Graduating Student Satisfaction Survey
1993-94 Academic Year

Approximately 500 surveys were included in the packets distributed by the Records Office to students who applied for graduation fall and spring semesters 1993-94. As an incentive to complete and return the surveys, each student could exchange the completed survey for an ACC souvenir mug. The response rate was 51% (n = 253).

For items summarized in Table 1 (next page) a five-point Likert scale was used, with choices ranging from "Very Dissatisfied" (1) to "Very Satisfied" (5); options were also included for students who were "Unaware of" or "Never used" the service.

For purposes of reporting this period, 3.50 was the criterion for acceptable performance in each area (i.e., means from 3.5 to 5 were at or above the criterion).

Table 1. Ratings of Services: All Degrees (n = 253)

AREA	% Rated	%*	Mean**
Admissions			
Ease of understanding college catalog and schedules	98.4	94.4	4.35
Convenience of admissions process	98.8	86.4	4.20
Assistance received by admissions staff	96.8	76.8	3.97
ACC transcript process	86.9	75.5	3.93
Orientation to ACC	85.7	66.4	3.80
Records/Registration			
Assistance received from records/registration staff	97.6	87.0	4.17
Efficiency of touch-tone registration	98.0	90.3	4.41
Graduation check process	94.0	79.8	4.03
Transfer credit evaluation process	71.5	68.0	3.81
Financial Aid/Veterans Office			
Availability of financial aid advisors	62.8	62.2	3.70
Veterans advising and assistance	32.0	44.6	3.62
Value/quality of advisement	67.2	53.1	3.52
Counseling			
Services provided by the Resource Center	61.2	68.4	3.87
Ease of setting appointments	72.7	66.3	3.73
Counselors concern for your needs as an individual	77.8	57.3	3.59
Quality of academic/transfer advising	68.0	57.0	3.57
Quality of vocational/career counseling	68.3	55.5	3.53
Helpfulness of ASSET testing for placement in classes	69.5	51.2	3.52
Availability of counselors	78.2	57.6	3.50
Instruction			
Overall quality of instruction in your major area of study	97.6	88.7	4.27
Challenge offered by your program	98.0	87.5	4.27
Attitude of instructors toward students	99.2	84.0	4.18
Value of information provided by faculty advisors	91.3	85.7	4.15
Variety of courses offered in your major area	98.4	81.1	4.10
Instructional Computing Center	63.2	73.8	3.98
Labs (Writing, Math, Computer)	71.1	73.3	3.93
Tutoring	46.6	61.0	3.75
Facilities			
Library	94.9	86.3	4.16
Fitness Center	67.6	81.2	4.15
General condition and appearance of campus grounds	97.6	87.0	4.09
Cafeteria	89.7	74.9	3.90
Bookstore	98.0	75.4	3.86
Student lounges	79.0	70.0	3.80
Classroom facilities	98.7	70.7	3.79
Student Activities			
Information Desk	92.1	90.6	4.24
Public Safety/campus security	80.2	77.3	4.02
Leisure activities (movies, comedy, concerts, lectures)	59.3	75.3	4.01
Recreational services (open swim & gym)	47.8	77.6	3.99
Child Development Center	31.6	62.7	3.92
Student Health and Wellness Center	54.5	69.5	3.85
Student clubs and organizations	53.3	60.0	3.76
Student newspaper (*Rapp Street Journal*)	75.9	52.0	3.57
Student Government	57.7	39.7	3.37

* Denotes the percentage of respondents who rated the item "Satisfied" (4) or "Very Satisfied" (5).

** Items are listed from highest to lowest mean in each category.

Table 2. Ratings of Knowledge and Skills
Results by Declared Degree

Compared with when you entered ACC, how would you describe your

	Certificate (n=39)			A.A. Degree (n=55)		
	% Rated	%*	Mean	% Rated	%	Mean
Level of general knowledge	100.0	94.9	4.31	98.2	96.3	4.52
Analytical and problem-solving skills	100.0	82.0	4.03	98.2	98.2	4.41
Ability to speak and write clearly	100.0	66.6	3.80	98.2	94.4	4.41
Cultural awareness and application	100.0	38.4	3.56	96.4	75.9	4.13
Confidence in your academic abilities	100.0	87.2	4.28	96.4	100.0	4.55

	A.S. Degree (n=27)			A.A.S. Degree (n=124)		
	% Rated	%*	Mean	% Rated	%	Mean
Level of general knowledge	88.9	100.0	4.79	95.2	98.3	4.59
Analytical and problem-solving skills	96.3	96.1	4.50	99.2	91.0	4.37
Ability to speak and write clearly	94.3	88.5	4.27	99.2	85.4	4.20
Cultural awareness and application	94.3	80.8	4.12	99.2	65.8	3.98
Confidence in your academic abilities	92.6	88.0	4.48	99.2	92.7	4.40

	A.G.S. Degree (n=8)			All Degrees (n= 253)		
	% Rated	%*	Mean	% Rated	%	Mean
Level of general knowledge	87.5	85.7	4.43	95.7	97.1	4.55
Analytical and problem-solving skills	100.0	62.5	4.13	99.8	90.8	4.33
Ability to speak and write clearly	100.0	87.5	4.63	99.8	84.8	4.20
Cultural awareness and application	100.0	75.0	4.25	99.8	65.6	3.97
Confidence in your academic abilities	100.0	100.0	4.5	98.0	93.1	4.42

Scale for Mean: 1 - Much Weaker; 2 - Weaker; 3 - No Change; 4 - Stronger; 5 - Much Stronger.

* Denotes the percentage of respondents who rated the topic and answered "Much Stronger" or "Stronger" for each question.

The Community Education Program (formerly Adult Education) experienced several administrative problems during the 1992-93 year, following the retirement of the former director of the program and the subsequent appointment of the new director in mid-October 1993. No formalized, written evaluation procedures had previously been used; thus the new director had to learn many things the hard way, discovering, for example, that many of the 1993-94 Scantron evaluations could not be used because they were marked in ink (rather than #2 pencil), were mutilated when stapled together, or were Xeroxed (rather than Scantron-readable forms). Such problems contributed to the small number of usable evaluations (see Table 1) and the conclusions that can be drawn from them. Lack of formalized procedures in identifying offerings (courses and schedules) contributed to other problems.

To improve effectiveness and efficiency, the new director identified office needs and job functions, formalized job descriptions in writing, re-organized part-time registration staffing patterns, and provided opportunities for staff to improve communication regarding class schedules, office procedures, and class logistics.

Table 1. 1993-94 Community Education Student Satisfaction Survey
Response to question "Level to which I achieved my personal objectives for this course"

Subject Area or Douglas County	Term*	# Surveyed	% Very Satisfied	% Satisfied	% Satisfied or Very Satisfied
Arts & Crafts	U	8	75.0	25.0	100
	F				
	W				
	S				
Computers	U				
	F				
	W	69	31.9	42.0	73.9
	S	370	31.4	46.8	78.2
Do It Yourself	U	8	87.5	12.5	100.0
	F				
	W				
	S				
Douglas County	U				
	F	39	28.2	46.2	74.4
	W	7	57.1	42.9	100.0
	S	6	33.3	66.7	100.0
Health	U				
	F	8	75.0	25.0	100.0
	W				
	S	31	58.1	38.7	96.8
Home & Family	U				
	F	3	0.0	33.3	33.3
	W				
	S				
Language	U	17	29.4	35.3	64.7
	F	7	28.6	42.9	71.5
	W	27	25.9	44.4	70.3
	S	8	37.5	37.5	75.0
Leisure	U				
	F	26	19.2	69.2	88.4
	W	14	28.6	57.1	85.7
	S				
Total		**640**			**80.2%**

* U = Summer
F = Fall
W = Winter
S = Spring

During the 1993-94 reporting period, BIS served 568 employees from 46 companies in 67 classes (3 credit-bearing courses, 31 non-credit courses customized for Colorado FIRST and Existing Industry clients, 11 regular non-credit customized courses, and 22 non-credit classes). Less than 70% of the students completed course evaluations (see next page). Because of the nature of three "classes" (overviews and individualized tutoring), 14% of the students did not receive evaluations. But concerted efforts to increase the response rate in other courses (as recommended in the 1992-93 Accountability Report) were frustrated by company representatives who insisted on collecting and reviewing the forms but losing or misplacing them without giving BIS the opportunity to see them.

Of the 362 evaluations received, 87% of the students either "Strongly Agree" or "Agree" with the statement "Overall, I was satisfied with this training." This reflects a decrease of 10% in the overall satisfaction rating. The 18% who responded negatively were in either the Translogic "Blueprinting" course or in customized computer courses for DirecTV. Follow-up discussions with company representatives indicated that the companies were very satisfied with both the classes and the instructors. The trainers at DirecTV attributed the dissatisfaction to the company itself, which mandated employees to take these courses regardless of their skill levels.

Increasing the response rate poses an ongoing problem related to credibility. Although BIS has already requested that BIS collect and summarize the responses first, in some cases the companies do not believe that is appropriate. A related problem lies in collecting written follow-up evaluations by managers who readily respond to follow-up calls from the BIS staff but are often just too busy to respond in writing.

The student evaluation form also poses some problems. Some students have expressed frustration with the choices of answers provided on the current forms. For example, one question asks whether the training facilities were adequate. Usually these are company facilities. Should BIS be accountable for those? Other problems arise because the current evaluation form does not provide the opportunity for students to clarify the reasons for their responses. For example, in response to the question "Was there enough time for questions?" one student responded "Neutral" but told the program director that some students asked so many questions that there wasn't enough time for other students to ask questions.

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BUSINESS AND INDUSTRY TRAINING EVALUATION

ARAPAHOE COMMUNITY COLLEGE

FOR OFFICE USE ONLY		
⓪	⓪	⓪
①	①	①
②	②	②
③	③	③
④	④	④
⑤	⑤	⑤
⑥	⑥	⑥
⑦	⑦	⑦
⑧	⑧	⑧
⑨	⑨	⑨

Trainer/Instructor: _____

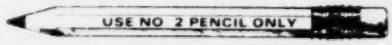
Seminar/Course: _____

Location: _____ Training Date(s): _____

Company Name/Organization: _____

Your Age: _____ Sex: ___ M ___ F

INSTRUCTIONS

- 

- USE A NO. 2 PENCIL ONLY! NO PENS!
- MAKE DARK MARKS THAT FILL THE APPROPRIATE OVALS COMPLETELY.
- ERASE CLEANLY ANY MARKS YOU WISH TO CHANGE.
- MAKE NO STRAY MARKS ON THIS FORM.

Please take time to respond to each question on this evaluation form. Your feedback is important for the improvement of this program in order for us to serve you and your company better.

Please rate the following:

	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	Not Applicable
1 The objectives were made clear at the beginning of the course/workshop/seminar	⑤	④	③	②	①	⓪
2 The objectives were met	⑤	④	③	②	①	⓪
3 The course/workshop/seminar built an understanding of concepts and principles	⑤	④	③	②	①	⓪
4 The instructor was well prepared for each class meeting	⑤	④	③	②	①	⓪
5 The instructor was effective in presenting the subject matter	⑤	④	③	②	①	⓪
6 The instructor demonstrated enthusiasm for the subject	⑤	④	③	②	①	⓪
7 There was sufficient time for questions and discussion	⑤	④	③	②	①	⓪
8 The training facilities were adequate	⑤	④	③	②	①	⓪
9 The information and skills learned in this training program were applicable to my current employment	⑤	④	③	②	①	⓪
10 Overall I was satisfied with this training	⑤	④	③	②	①	⓪

PLEASE RESPOND TO THE QUESTIONS LOCATED ON THE REVERSE SIDE.

PLEASE DO NOT WRITE IN THIS SHADED AREA

11. Which specific information/skills do you think will help you in the performance of your job? How and why?

12. How would this training have been more responsive to your needs?

Thank you for completing this form.

Wayne Henry, Dean
Community Services
Arapahoe Community College
797-5712

Table 1. Summary of Responses to Question 10:
"Overall I was satisfied with this training."
Customized Classes

Class Title	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	Not Applicable
Blueprint Reading 47/47	1	14	15	7	8	2
ZM Basic Principles 14/15	5	9				
Dev. Self Directed Work Teams 15/15	11	4				
Dev. Self Directed Work Teams, Extension 0/15						
ZM Executive Overview 0/10						
Skills in Electrical 0/6						
Dev. Self Directed Work Teams 16/18	8	8				
TQM Overview 0/50						
Dev. Self Directed Work Teams 17/18	12	5				
Dev. Self Directed Work Teams 17/18	10	7				
Problem Solving Tools 19/19	11	8				
Totals: 145/231	**58 (40%)**	**55 (38%)**	**15 (10%)**	**7 (5%)**	**8 (6%)**	**2 (1%)**

Table 2. Summary of Responses to Question 10:
"Overall I was satisfied with this training."
Computer Classes

Class Title	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	Not Applicable
Windows I 4/4		4				
Windows I 2/2	1	1				
WordPerfect I 0/2						
Lotus I 5/5	3	1	1			
Lotus II 2/2	1	1				
WordPerfect II 2/2	2					
Desktop Pub. 2/2	1	1				
WordPerfect I 5/5	2	2	1			
Lotus I 0/6						
DOS 2/2	1	1				
Windows I 4/4	2	2				
WordPerfect I 5/5	4	1				
Lotus I 5/5	2	3				
WordPerfect I 5/6	1	3	1			
WordPerfect I 5/5	4	1				
WP Tables 5/5	5					
Windows I 6/6	3	3				
WP Windows 9/9	5	4				
Lotus I 4/4	2	2				
Excel I 4/4	3	1				
WordPerfect I 3/4	2	1				
Lotus Redo 2/2	2					
Totals: 81/91	**46 (57%)**	**32 (38%)**	**3 (4%)**			

Table 3. Summary of Responses to Question 10:
"Overall I was satisfied with this training."
Colorado FIRST/Existing Industry

Class Title	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	Not Applicable
DirecTV 4/5	4					
Word/Excel 4/4	4					
Unix 7/9	1	4	1	1		
Unix Shell 3/3	2	1				
Excel 0/6						
Word 6/6	4	2				
Word 5/5	4	1				
Word 4/5	4					
Word 3/3	2	1				
Excel 5/5	4	1				
Excel 6/6	5	1				
Excel 5/6	5					
CC Mail 0/12						
CC Mail 0/16						
CC Mail 0/11						
Word 11/13	4	7				
Int. Word 11/13	4	7				
Win/Word 13/13		12	1			
Int. Word 13/13	1	8	4			
Win/Word 4/4	4					
Win/Word 4/4	4					
Access 0.5						
Int. Access 0/4						
Metrum Train/Cross... 6/12	3	3				
Train/Crosstrainer 5/8	1	4				
Facilitator Training 6/8	3	1	2			
Totals: 125/199	**63 (50%)**	**53 (42%)**	**8 (6%)**	**1 (1%)**		

Table 4. Summary of Responses to Question 10:
"Overall I was satisfied with this training."
Credit Classes

Class Title	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	Not Applicable
Accounting I 11/17	4	5	2			
Conv. Spanish 0/14						
C++ Programming 0/16						
Totals: 11/47	**4 (36%)**	**5 (45%)**	**2 (18%)**			

Sample Letters of Recommendation from Corporate Clients

of

Business and Industry Division

McDonald's Corporation
5251 DTC Parkway
Suite 300
Englewood, Colorado 80111
(303)779-0444

March 18, 1994

Ms. Beth Weick, Director
Arapahoe Community College
Business and Industry Services
PO Box 9002
Littleton, CO 80160-9002

To Whom It May Concern:

I have used Arapahoe Community College's Business and Industry Services for the past two years to provide in-house training and consulting for our Regional Staff and have been very pleased with the results. The training has always been tailored to meet our needs, and the consultants have been of the highest caliber.

Initially, when I was shopping for such a service, I found A.C.C. to be very cost competitive. Since using A.C.C. the first time, I have not had to shop around anymore because I keep getting quality service, consultants and training/consulting content.

If you would like to discuss this with me, I can be reached at (303) 779-0444.

Sincerely,

Pete Casanova

Pete Casanova
Human Resources Manager

tmd\WEICK.PCN\03/15/94
3/18/94am

Metrum Information Storage
P.O. Box 5227
Denver, CO 80217-5227

Tel. 303-773-4700
Fax 303-773-4762

March 18, 1994

METRUM
INFORMATION STORAGE

Ms. Beth Weicke
Director of Business & Industry Services
5660 Greenwood Plaza Blvd.
Englewood, CO 80111

Dear Beth:

As our work on the Existing Industry program draws to an end, I want to take this opportunity to thank you for the assistance you have provided to Metrum since you began working at Arapahoe Community College. During the last two years, as we worked so closely on the Existing Industry program, your help and advice has been invaluable.

Over the past three years we have come to AC with requests for specific seminars, credit classes, assistance with the workplace education program, and very customized training needs. You have always handled our requests quickly and professionally with an attitude toward excellent customer service.

Major factors in our requesting your assistance throughout this time have been your professional attitude, the expertise of your consultants, competitive pricing, and the delivery of quality programs. Clearly, the customer service you provide is the reason we think of you when we have a training need.

Working with you has clearly been a pleasure and a beneficial experience. I look forward to working with you in the future.

Sincerely,

Elizabeth Ruppe
Organizational Development

/ksl